

The Mining Journal

Established 1835

Railway & Commercial Gazette

Vol. CCXXXVIII No. 6072

LONDON, JANUARY 4, 1953

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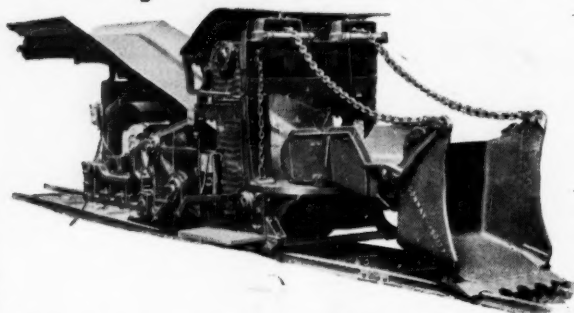
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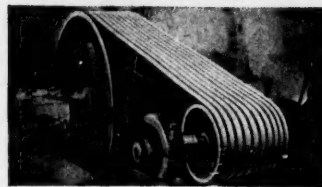
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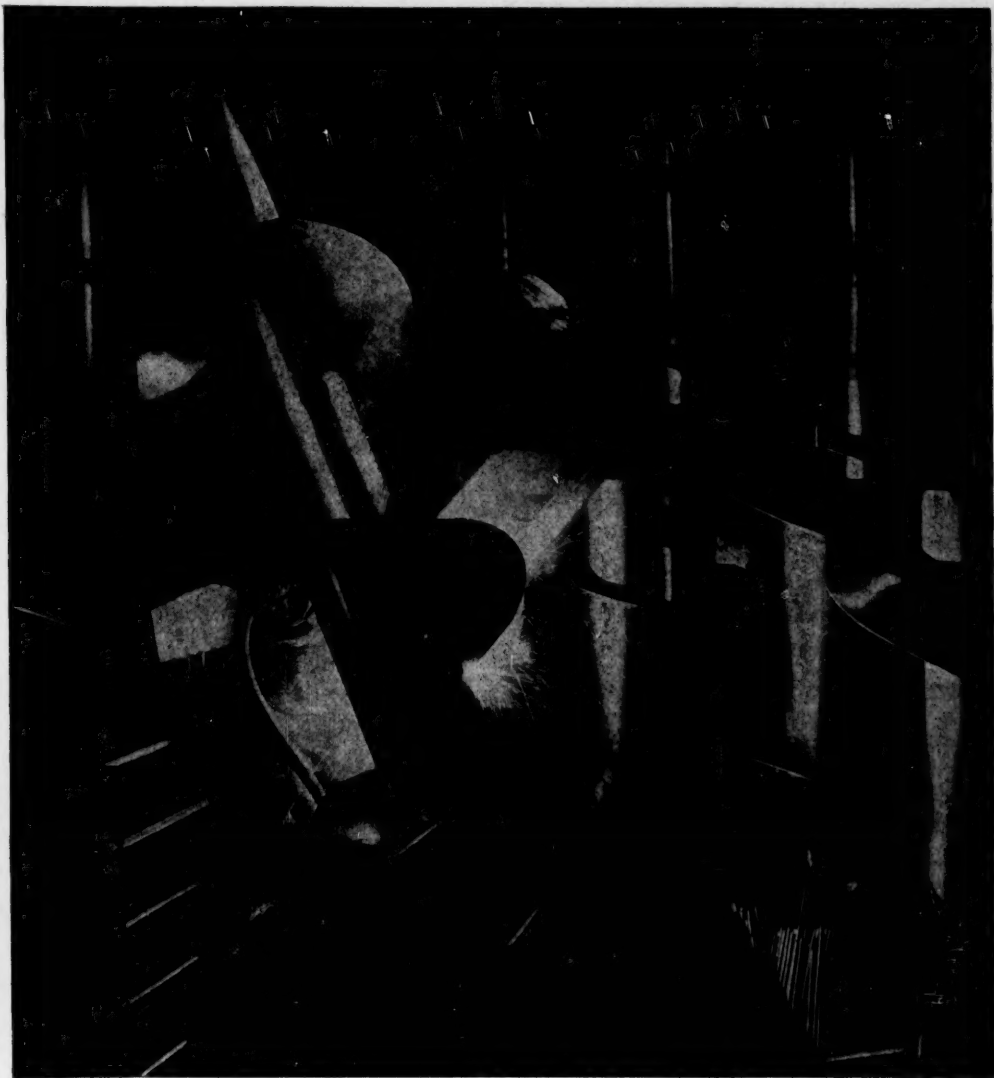


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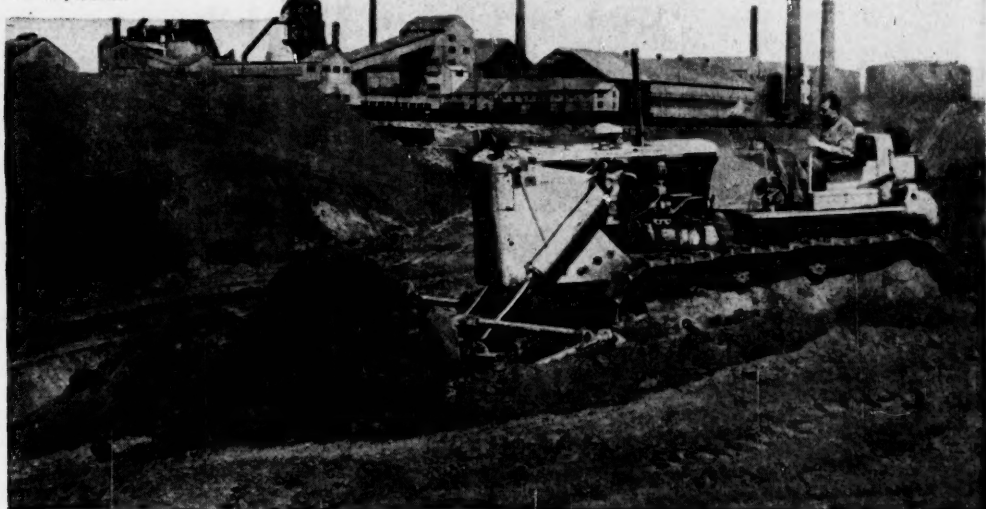
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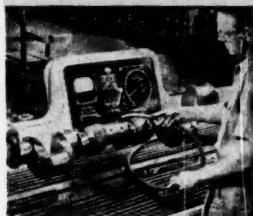
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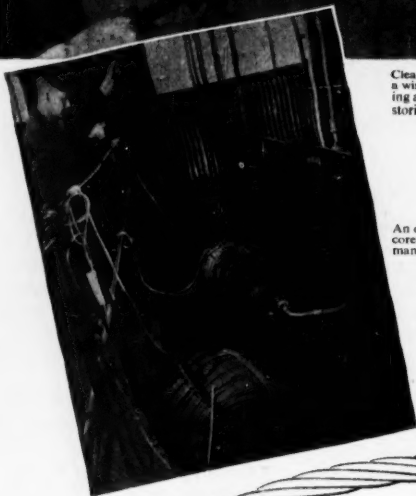
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The Mining Journal

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LONDON, JANUARY 4, 1952

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NOTES AND COMMENTS

Problems and Promise of the New Year

The period on either side of New Year's Day marks a cessation of active business and gives an opportunity for stocktaking—political, economic and industrial. Such stocktaking implies some review of the past as well as conjecture for the future. The expectations expressed in our review a year ago have on the whole been fairly borne out. There has been no outbreak of major war and the progress made in the integration of Western international co-operation both from a military and economic aspect appears to have been satisfactory so far, though an immense amount of follow-up work is still necessary.

In this respect Mr. Churchill's visit to President Truman promises to be an event of outstanding importance, and on the extent of its success will depend much of the outlook for the coming year. However, the conclusion of Mr. Howe, the Canadian Minister of Trade, that "the course of 1951 justifies increasing optimism" is probably broadly justified. Mr. Acheson has expressed a somewhat similar view in the last few days, while Marshall Tito has told the Yugoslavs, "To-day it should be more possible to preserve peace than it was yesterday." The results of the British elections last October was an event of major importance not only domestic but international.

If historical precedents can be relied on no European war should be started before the early summer of 1952; after the snow has gone and the *terrain* has consolidated. However, on eccentric fronts—the Near East, the Middle East and the Far East—the situation can hardly be said to have improved, with the unstable conditions of Iran and Egypt so markedly presenting themselves. Russian advances on the Northern Frontier of India, and the Communist activity in Far Eastern countries like Malaya, Siam and Indo-China to say nothing of the Korean battlefield present situations which offer the Kremlin widespread opportunity for exerting greater pressure even if they hesitate to resort to the dread arbitrament of open war in Europe.

So much for the broad outlook of international politics.

Turning now to the economic picture. Here we appear to be entering uncharted seas of economic controls and reconstruction inspired largely by the far flung influence

of inflation. Mr. Attlee's flag of defiance of economics sank with him with the defeat of the Socialist Party in the October election, leaving the British Commonwealth in a desperate situation if National Bankruptcy is to be avoided. As Mr. Churchill pointed out in his pre-Christmas broadcast if we cannot buy food and materials to support the population of the British Isles numbering some 50,000,000, wholesale emigration of perhaps a third of our population is the only alternative to famine such as the nation has never experienced, and to emigrate some 15 to 20 millions of people suddenly is a sheer impossibility. Drastic control of imports, prices and wages is therefore inevitable. This presages severe social strain. Though the situation is far less alarming in the United States the inflation cycle is causing no less apprehension there and we have yet to experience how attempts at controlling it will react on the whole structure of business.

In our own sphere of mining and metallurgical industries the influence of *ad hoc* controls and restrictions appear for the time to have stayed the advance of prices, especially in tin and wolfram, and they may become more effective in respect of copper, lead and zinc; but unless the appetite of the great trades unions on both sides of the Atlantic for higher wages can be appeased, stabilization of metal and mineral prices is dubious. Unless these prices have "stalled" we may see them pricing themselves out of many markets. In the long run substitute materials, especially alloys, may help, but such can not be extemporized and where effective they will infringe permanently on the conventional boundaries of the respective trades and thus permanently modify the former picture in these trades and the respective branches of mining which supply them.

A gradual change may perhaps be detected in expert opinion regarding the outcome of the immensely increased demand for raw materials of the mineral industry, at present so painfully felt throughout the free world. It will be increasingly realized that with the heavy drafts on mineral reserves during and since the war, production cannot immediately be expanded much beyond current totals. Various great developments have been projected particularly in the United States which will add substantially to

world production capacity but these are not likely to be realized under two or three years by which time it is expected that the demands for rearmament should have slackened, consequently opinion is much exercised as to whether a period of widespread over-production of minerals and metals will eventually ensue. The possibility of a big permanent increase in industrial demand seems a reasonable view if we can emerge into a period of settled peace, and there is a strong body of opinion, especially in the United States, that given a favourable solution of present anxieties industrial expansion will take care of this new body of raw material output so that it can be readily absorbed without a period of slump and readjustment. Whether this anticipation can be realized it is impossible at present to judge. Meanwhile, international experiment in the way of planning and apportioning raw material is being actively pursued through the International Materials Conference now operating in Washington. In the coming year we should see how these plans succeed.

The problem of the world's need of supplies of gold has developed with the retreat of the International Monetary Fund on the issue of premium sales. The question is too complex to be discussed here and gold production in 1951 seems likely to be somewhat less than in previous and earlier years. There is, however, a growing pressure in the United States to move towards freeing the industry from restriction and control and in favour of some revaluation of the fine ounce and a greater return to something like the old gold standard.

The watchword of the mineral industry in 1952, however, seems to remain much what it was for the last two or three years, namely, the need of increased effort by all sections, especially the miners, to realize the world's paramount need of the products of their industry for the salvation of our general standards of existence and not to misuse it by exploiting it as a threat against civilization but to recognize it as an obligation towards self control and even temporary sacrifice in the interests of the assurance of future continuity and expansion, which would soon be ruined by any dislocation of the intricate machinery through which the mineral industry exists to-day and must continue to do.

More Coal and Steel Vital for U.K.

In his broadcast a fortnight ago Mr. Churchill gave due warning that on the re-assembly of Parliament after the Recess, the Government would present proposals, "many of them unpleasant," to help Britain back to the path of prosperity. The first of these grim economic readjustments have come more quickly than many of us expected.

On the last day of the old year, two heavy impositions were added to the burdens which British industries must carry in the effort to stabilize the national economy and avert a new financial crisis. A ten per cent rise in railway freight charges will increase the costs of distribution of the people's food and of all the products of their industry, and an extra 5s. per ton on the pit head cost of coal will similarly oppress the householder and the manufacturer alike. There is no help for it. Both these inflationary measures are the consequence of wage increases previously granted to the workers in these two nationalized industries.

But the dire results do not end there. To a greater or less extent the price of every commodity in common use will be affected. The burden on steel will be particularly severe since the steel industry ranks as the biggest user of coal and transport. Steel prices will have to go up again, and dearer steel in turn will force up the costs of ship builders, motor manufacturers and all the wide range of industries which use iron and steel as their raw material.

The hardship to our exporting industries is too obvious to need further emphasis, and it is a handicap which

must be enhanced by scarcity.

The consequences of this further twist to the inflationary spiral would be less serious if supplies of coal and steel were abundant. Unfortunately, industry is further crippled by acute shortages of both commodities. Ways and means *must* be found to increase the output of coal. The mining industry has beaten the target for 1951, but it was a very modest target. One way or another more men must be recruited for the mines. Improved techniques and more mechanization are long term measures which should not be neglected. But the mines need more man-power to produce the coal we need for the nourishment of home industry and the expansion of our export trade. That is the paramount task which confronts the Coal Board in 1952.

The E.C.A. Hands Over

After a short, yet most useful life of nearly four years, the Economic Co-operation Administration, which has played a major rôle in the economic recovery of Western Europe, came to an end on December 30 of last year. There can be no doubt that, had the United States not given Europe its timely and generous aid, amounting to nearly \$13,000,000,000, the financial and economic difficulties of the Continent, and of this country, would have been greater still. The progress towards the European economic integration; the Organization for European Economic Co-operation; the liberalization of Europe's tariff system; the European Payments Union and, last but by no means least, the Schumann Plan, bear witness to the great influence exercised by the E.C.A. on the economic development of Western Europe.

The Mutual Security Agency (which has taken over some of the functions and part of the staff of the E.C.A.) will, as its name implies, be concerned with the provision of financial aid to strengthen the defences of Western Europe. Needless to point out, E.C.A. funds in the "pipeline" will continue to reach Europe for several months, but thereafter, American aid will be used only for military supplies of every kind. The functions and personnel of the Strategic Materials Division of the E.C.A. have been transferred to the recently created Defence Materials Procurement Agency. The Division, now known as Foreign Expansion Division of the D.M.P.A. will continue to be headed by Mr. Charles E. Stott, who will direct the Agency's operations in Mexico, Central America, South America and all of the free countries of the world except Canada.

The part played by the E.C.A. in developing resources of scarce and strategic raw materials has frequently been referred to in these columns. However, on this occasion it is opportune to recall that according to the latest E.C.A. report available (i.e., that for the quarter ended June 30, 1951), about \$4,000,000 of appropriated funds and the equivalent of about \$2,000,000 in local currency from five per cent counterpart funds were committed by the E.C.A. for, inter alia, the development of bauxite in Jamaica, of chrome in New Caledonia, and of diamonds in British Guiana. Funds were also committed for a geological survey of selected areas in Mozambique, to be undertaken in conjunction with the aerial survey carried out under the technical assistance programme. A small grant of \$13,010 was made for additional U.S. equipment to be used on the British Colonial Survey which was originally contracted for with the U.K. in September, 1949. As regards France, E.C.A. gave the aid, during the quarter, to the Société Minière Intercoloniale for exploring the Brià area of French Equatorial Africa for industrial diamonds. An interim agreement for the early delivery of Greek bauxite to German aluminium plants was also signed. In return, aluminium metal will be delivered to the Emergency Procurement Service by the German plants.

Canada

(From Our Own Correspondent)

Kirkland Lake, December 17.

Abolition of Foreign Exchange Control in Canada was the highlight of news in this country over the past week-end. Canadians are now free to handle their currency in whatever amount or direction they may desire—whether for foreign investment, travel abroad, or for employment at home. The belief prevails that investment opportunities in Canada compare favourably with any other part of the world and that there will be no great urge to send capital abroad in any great volume. On the other hand, the inflow of investment capital into Canada from other countries (already prevailing at the highest rate in the history of the country) may gather added impetus now that investors know they may withdraw their capital at any time.

NEW PIPE-LINE TO PACIFIC

Oil developments in the Canadian West are progressing at a pace which demands greater pipeline outlet. The 1,150 mile pipeline constructed from Alberta to the head of the Great Lakes at a cost of \$90,000,000 carried some 13,000,000 bbl. of oil during the past season. Arrangements are being made to increase this flow to 18,000,000 bbl. during 1952, and further to possibly 26,000,000 bbl. during 1953. However, this line operates only during the season of open navigation along the Great Lakes—thereby causing heavy cut-back in production from the wells during winter. Because of this, both provincial as well as federal authorities have recognized the necessity for a pipeline to the Pacific seaboard. Such an additional line has been approved. Plans for construction are in an advanced stage, and completion of the added outlet is scheduled for 1953. The undertaking will be a major project, crossing the Rocky Mountains by way of Yellowhead Pass. And while provision for transport of petroleum itself is thus going on apace, a survey has been made of natural gas resources. Already one pipeline for export of natural gas has been built 70 miles south to cross the border of the United States and serious study is centered upon the possibility of a line of more than 2,000 miles in length to reach the markets of the industrial centres of eastern Canada, such as Toronto and Montreal. While the province of Alberta embraces the major area of petroleum production, yet exploration is gradually revealing the presence of oil also in British Columbia, Saskatchewan and Manitoba.

DEMAND FOR STEEL MILLS

There is an increasing demand in Canada for the construction of larger steel mills. *The Mining Journal*, through its Canadian staff correspondent has, on various occasions, advocated greater thought along such lines. The object in view has been to encourage the Canadian government to exercise every reasonable and legal means to assure maximum fabrication of steel in Canada, rather than to be content with the export of raw iron ore to other countries. Fabrication of steel in Canada, even to the limit of iron ore production, might well become the keystone of this country's industrial future—and a balance wheel on which the welfare of incoming millions of new Canadians might revolve. One of the more influential Canadians now among those advocating such national policy is the Hon. George Drew, Leader of the Official Opposition in the Canadian Parliament.

At a point one and one-half miles vertically below the surface of the earth, Lake Shore Mines, situated in the Kirkland Lake goldfield of Northern Ontario, is developing some of the richest ore so far found in this country. The deposit under development was located by diamond drilling lateral holes in a southerly direction from the

hitherto main mineral-bearing section of the property. A crosscut was put out to the parallel deposit at the 7,825-ft. level, and drifting is under way along the ore zone. Drill core through the deposit carried over \$70.00 in gold to the ton in 47 ft. of core at one point. Another hole through the deposit farther on revealed 1.34 oz. over 8 ft. and 2.13 oz. over 11 ft. These results offer promise of an increase in gold production from Lake Shore in the reasonably near future. The newly found deposit is striking toward the adjoining Kirkland Hudson Bay property, which is also controlled by Lake Shore.

Following the decision of the Canadian government to proceed with measures intended to provide a deep-sea waterway through the River St. Lawrence to the Great Lakes, a bill has been introduced calling for the establishment of a Canadian agency to construct and administer the affairs of the seaway. The object is to authorize the three-member board to impose tolls on both domestic and foreign shipping sufficient to cover the cost of the agency's operations—in addition to the authority to borrow up to \$300,000,000 to build the deep waterway from Montreal to Lake Erie. The programme is designed to dovetail into plans of the Province of Ontario and the State of New York to develop jointly the hydro-electric power resources of the big waterway.

IMPORTANT URANIUM DEPOSIT IN SASKATCHEWAN

Development of important uranium deposits in northern Saskatchewan, added to increasing sources of uranium in other parts of the world in which the democratic nations carry on trade and commerce, has brightened the prospect of expansion by the U.S. Atomic Energy Commission. It has been pointed out that of the \$100,000,000 appropriated by the U.S. government for the procurement of hard goods and construction since the outbreak of war in Korea, only about \$2,000,000,000 has been earmarked for similar expenditure for atomic energy. Now that the source of supply has become greater, there are indications that the rate of expenditure for atomic energy may be doubled at least. For reasons of security, details as to the extent of increase in uranium resources and the tempo and full extent of expansion are to remain on the secret list. One thing seems certain, namely, that the harnessing of atomic energy has signalized the beginning of a new era of such portent to future civilization as to be all but incalculable at this time.

Canadian Output—1951

The advance figures of Canadian metal and mineral output for 1951 issued by the Canadian Bureau of Statistics show increases in copper, nickel, zinc, silver, asbestos, iron ore, platinum and palladium, titanium ore, petroleum, pyrites. Decreases were shown in gold, lead, tin, tungsten, coal. Figures for the chief items are:

	1951	1950
Gold.....	4,328,931 f.oz.	4,441,227 f.oz.
Platinum.....	154,956 "	124,571 "
Palladium, etc.....	162,480 "	148,741 "
Silver.....	24,244,949 "	23,221,431 "
Copper.....	270,483 s.tons	264,209 s.tons
Lead.....	152,500 "	165,697 "
Zinc.....	333,936 "	313,277 "
Nickel.....	137,268 "	123,659 "
Antimony.....	600 "	327 "
Cobalt.....	473 "	292 "
Titanium ore.....	1,672 "	1,253 "
Tin.....	173 "	398 "
Tungsten.....	10 "	142 "
Oil.....	48,000,000 bbl.	29,000,000 bbl.
Cadmium.....	605 s.tons	424 s.tons
Bismuth.....	117 "	96 "
Asbestos.....	967,000 "	877,650 "
Pyrites.....	368,800 "	"
Iron ore.....	4,736,190 "	3,605,261 "
Gypsum.....	3,374,325 "	3,666,336 "

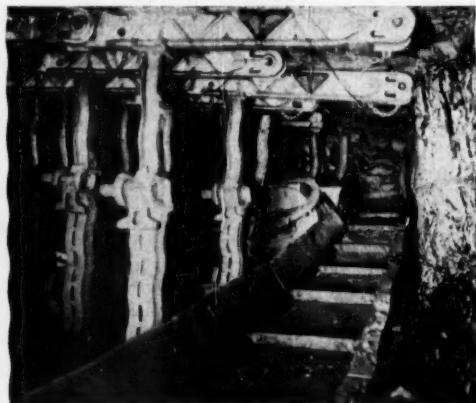
New Conveyor and Supports for Longwall Continuous Mining

The possibility of winning coal in a single operation without previous preparation by cutting and shooting has always held many attractions for mining engineers, but it is only recently that systems capable of realizing this ideal have begun to pass through the experimental stage, and to become available to mine managements as accepted methods of working. According to Bulletin No. 5 (Volume 4, Series: Mech.-No. 36), issued by the School of Mines, King's College, University of Durham, —which is reproduced below—the introduction of the coal plough, followed by the development of various stripping machines, now makes it certain that this system of continuous mining, which involves the removal of coal from the face in relatively thin vertical slices, will become an important method of mining in British collieries. The illustrations accompanying this article are reproduced by courtesy of Hugh Wood & Co., Ltd., Gateshead.

The problem of continuous mining is not solved by the invention of a suitable stripping machine. An essential requirement is a suitable conveyor which can be run when curved or "snaked" so that it can be placed in front of the face timber and kept close to the coal for its full length, and which, moreover, is capable of bearing the weight of a coal-cutter, where necessary, and providing a runway for it, or of taking the side thrust from a stripping machine. A further requirement is a method of roof support by which the roof next to the face can be supported from a row of props behind the conveyor without sacrifice of safety, and which allows the supports to be advanced to coincide with the movement of the face, thus simplifying the operation of "timbering" and speeding up the whole operational cycle.

THE PYTHON CONVEYOR

The Huwood P40 "Python" Conveyor shown below operating on a face with the roof supported by Schloms Bars and Schwarz Props, has been designed specifically for this type of mining. It is a strongly made chain conveyor, which can be "snaked" to keep it close to the face, jacks set against the timber being the means normally adopted to accomplish this. The illustration in the adjoining column shows a jack with its operating lever, while two units can



The Huwood P40 "Python" Conveyor in operation

be seen in position behind the conveyor in the illustration appearing on the next page. Once this conveyor has been installed on the face, it is possible to run it until a complete panel of coal has been worked out, an operation which might take some months, without once breaking the conveyor. On the other hand, the conveyor can, if necessary, be used on ordinary longwall faces as it is designed so that it can be easily dismantled. It thus provides a useful alternative to a belt conveyor, an important factor in view of the high cost of belting.

The P40 Section is made in four parts, a bottom trough, a top and two interlocking side angle plates. In addition to these parts, spillplates can be used on one or both sides of the conveyor. The bottom troughs are made so that one overlaps the other, two welded-on stoppers on the outsides of the overlapping trough fitting into a space provided on



A jack with its operating lever

the inner side of the under trough. Each space allows about a $\frac{1}{2}$ -in. play so that the two adjacent troughs can be set at a small angle to each other in either direction. The top trough is laid directly on the bottom trough and is held in position at four points by locating pieces which fit into appropriate places in the bottom trough. Bottom trough and top trough are locked firmly together at each side by interlocking side angle plates. These plates are dropped into appropriate slots in the bottom trough, the angles covering the chains, and are pushed approximately $1\frac{1}{2}$ -in. in either direction, so that they interlock with the locking pieces in the sides of the bottom trough, thus making a firm and flexible structure. As has already been stated, the troughing is strong enough to support a coal cutter, but as the coal cutter moving in one direction would tend to pull the angle plates along with it, the double lock ensures that the plates will still assume a new locking position.

The carrying medium in the P40 Conveyor is a double chain to which flights are fitted at 3 ft. intervals. The chain has $\frac{1}{2}$ -in. diameter links and a breaking strain of 25 tons. Each strand is pre-stretched before delivery to 10 tons, to minimize the possibility of further extension which might occur in normal running.

Two drive heads are supplied for use with the Python Conveyor. One, the P35, is used solely for tail end drive when the conveyor is used on downward gradients. The driving motor is placed within the frame of the drive at right angles to the conveyor, which it drives through spur and pinion gearing, a Huwood reduction gearbox similar to those used on many Huwood belt conveyors being incorporated. The drive head can be supplied to give chain speeds of 117 ft., 158 ft. and 184 ft. per minute.

In the other drive head, the P40, the driving unit, consisting of motor and gearbox, can be bolted to either side of the head frame. The gearbox contains spiral bevel and double helical gearing which give cool running under load, and the conveyor is so arranged that either one or two of these P40 drive units can be set to the work of driving the conveyor, one at the head end and, if required, one at

the tail end. When more than one drive unit is used, any unit in which the prime mover is an electric motor is fitted with a traction type fluid coupling between motor and gearbox in order to equalize the load. Where only one drive unit is used, either a fluid coupling or a flexible bobbin coupling can be fitted. The motor is carried in a frame bolted to both the gearbox and head frame, and it is also spigoted to the gearbox to ensure the alignment of the coupling. The P40 Drive Unit gives chain speeds of 142 ft. or 176 ft. per minute.

THE P80 CONVEYOR

A larger version of the Python Conveyor is available in the P80 Conveyor, which is of heavier and stronger construction and capable of dealing with a longer face. In the P80 Conveyor, the section differs considerably from that of the P40, as each trough is made in one piece of two pressings with welded-on reinforcement plates. The joint is formed by the overlap of the centre plate, and V pieces project from one end of the side channels and engage with pockets on the opposing section. The sections are loosely bolted together with two bolts which give a flexibility of $3\frac{1}{2}$ deg. in all directions. Goaf spillplates may be bolted to the sections if required. In the P80 Conveyor the chain has a diameter of 0.71 in. and a breaking strain of 50 tons, and is fitted with flights spaced at 3 ft. 3 in. intervals. For driving the P80 Conveyor, power units very similar to the P40 Drive Unit are used, and as many as four can be fitted to the conveyor, two at the head end and two at the tail end, thus providing a maximum of 160 h.p., the drive from an electric motor being transmitted through a traction type fluid coupling. The drive head of the P80 Conveyor can be arranged to give chain speeds of 110, 149 and 185 ft. per minute.

THE SCHLOMS BARS

The Schloms Bar is available in either steel or light metal alloy, and the records from one Continental colliery show that when the steel bar was introduced, it made possible a very considerable improvement in the tons per manshift, a figure which was increased still further when the light metal alloy bar, offering the advantages of even greater ease of handling, was introduced.

Of simple construction, the Schloms Light Metal Alloy Bar is of "H" Section, cast with a specially strengthened web. The two ends of the bar, however, are different from each other, one end taking the form of a strongly reinforced vertical slot which receives the tapered end of the next bar. Both ends are drilled so that they can be hinged together by inserting a steel pin through the holes. The tapered end of the bar, which fits into the slotted end of the next bar, contains a steel strengthening insert, and when the extension bar is lifted into a horizontal position, a steel wedge can be inserted behind this insert through suitable apertures in the slotted part of the supporting bar.

The wedge fits against the steel insert at a point below its centre, and thus holds the extension bar in any required position near to the horizontal demanded by the angle of the roof, the wedge and insert being in compression.

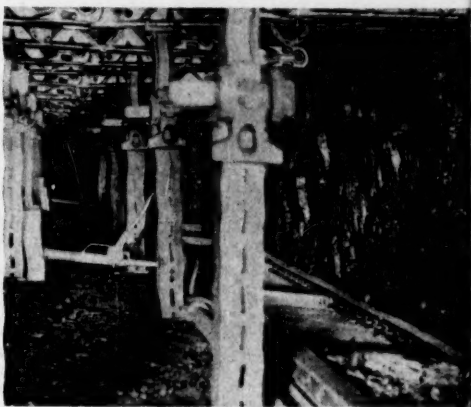
Tests have proved that an extension bar, when wedged to a supported bar in this manner, can hold a weight of more than two tons applied to the steel pin at the extended end. It can be seen that the bar, when supported from behind the conveyor, thus provides adequate support under the roof next to the face.

The upper and lower flanges of the Schloms Bars are provided with seatings which fit the heads of the Schwarz Props normally used in conjunction with them and which prevent the props from slipping out of position under pressure, and as the bar is symmetrical, it can be reversed in the pit each time it is moved forward, so that any slight bending is corrected.

The advantage of the Schwarz Prop is that it offers a uniform resistance to the roof throughout the full travel of the upper member of the prop into the lower member. One of the objections to former yielding props was that the yield was never quite uniform. Consequently, different resistances were imposed against the descending roof throughout the length of the coal face, a condition which did not make for satisfactory roof control. By making it possible to have an even resistance for the entire supported area of the face, the Schwarz Prop adds materially both to the safety and the efficiency of longwall working.

CONSTRUCTION OF THE SCHWARZ PROP.

In construction, the Schwarz Prop consists of an upper and lower member, with a special clamping device which is fitted to the top of the lower member. The upper portion is extended by driving lifting wedges into slots in the lower portion of the prop, and by this means alone, it is possible to obtain an initial resistance of five tons when setting. When the initial resistance has been obtained, the horizontal wedge in the clamping device is tightened and the lifting wedges withdrawn. As the pressure of the roof increases, a vertical wedge in the clamping device tightens until, after the prop has sunk only one inch, the maximum resistance is attained. This



A Huwood P40 "Python" Conveyor operating on a face with the roof supported by Schloms Bars and Schwarz Props. Note jacks in position behind the conveyor

maximum resistance can, according to the type of prop used, be 35 or 50 tons. The Schwarz Prop head is fitted with horns at each of the four corners, and these interlock with the seatings on the flanges of the Schloms Bars, and thus prevent slip in any direction.

The Schwarz Prop has been designed for easy withdrawal, either by hand or by means of a winch. An eccentric bolt holds the horizontal wedge in position, and when this bolt is rotated by lightly hammering or pulling the release lever fitted to it, the wedge is released and the upper member falls into the lower member. A common practice is to withdraw three props together, different lengths of chain being attached to a single rope operated by a winch. The lengths of these chains are so arranged that the pull is applied to each of the three props in succession through hooks attached to the release levers.

The Committee express their appreciation to Messrs. Hugh Wood & Co., Ltd., for their assistance in providing information for the preparation of this article.

Researches on Nickel Matte

By C. C. DOWNIE

In the smelting of garnierite and similar nickel ores in the blast furnace followed by refining of the matte so produced in the converter, the work proceeds in a more or less direct manner so long as the magnesia, silica, and iron oxide contents are within known limits for easy fluxing. Where associated raw materials contain chromium the fluxing becomes more complicated, but once the matte is obtained, refining continues in the normal manner. A notable difference transpires once copper appears in more than the usual few points per cent, as the process system is not intended for copper-bearing nickel ores which have already been dealt with so widely in Canadian quarters. The latter is really a different style of smelting, whether the familiar top-and-bottom or other method is followed, and the ordinary plant layout for garnierites is not suitable for handling them. Small quantities of copper up to a few points per cent are accounted for in the converter, where they are drawn off in the "toppings" as has been previously described. (*E. & M.J.*, August, 1946, p. 88). There is, however, a limit to which this can be economically carried out, and while resort can be had to taking selective tapplings from two simultaneously operated furnaces, one of which handles literally copper-free garnierite, tapping times cannot always be arranged conveniently, and this necessitates use of a settler hearth. In some respects this is mistaken practice, since the total quantity of "toppings" is unnecessarily increased, and these cannot be returned to the blast furnace because of the tendency to thus accumulate copper.

PROCESSES USED

Such toppings are much better kept separate and worked-off by themselves. For this purpose, one of the earlier small blast furnaces of 10 tons daily capacity, operated years ago by the Nickel Co., Ltd., was returned to commission, the resulting matte "blown" in a separate converter, handling from $\frac{1}{2}$ to 1 ton per charge, and cast into moulds; on occasion this refined matte contained up to as much as 5 per cent copper. This differs materially from the Sudbury types of matte which are known to contain up to 43 per cent copper and 39 per cent nickel, as was soon revealed when attempts were made to follow the top-and-bottom process. Far too much sodium sulphide was necessary to "lift" the copper completely into the top-matte to be economical. Amongst practical points here, the tough converter matte had to be pulverized so as to make a good initial mixture with the sodium sulphate and coal, and the treatment had to be again repeated with the resulting matte before it was suitable for roasting and refining. Likewise the known method of roasting the matte with rock-salt, which has been the subject of a number of papers, up to a point could work quite well, but it unfortunately leaves the nickel in oxide condition still containing a minute quantity of copper, sufficient to necessitate electro-refining. The copper was converted to chloride and sulphate, as had been described, provided a sufficiency of rock-salt was added, but it turned out to require much more than the 10 per cent advocated in view of the surplus sulphur present. At one period, one smeltery offered the copper contents free of charge to a nearby wet copper extraction works, if the nickel residues were returned to them. Some trial runs were made in the latter works, but despite all that has been written about nickel remaining insoluble when matte is roasted with common salt, a definite small percentage always found its way into the copper liquors. This would have been of little account

had the copper been precipitated by scrap iron as was the usual system, but the scrap frequently contained galvanized iron which deposited the nickel, and for this, and other reasons, the method was abandoned. An alternative was to ensure scrap iron alone being used, and treat the final liquors with milk of lime to precipitate the nickel, but so much calcium sulphate was formed that the deposit, which had to be dried, sometimes contained only from 1 to 1.5 per cent nickel, and was not economical to handle.

ADAPTATION OF THE OXALIC ACID PROCESS

There is little doubt that had there been more cooperation between the two firms, some equitable arrangement could have been reached. As it was, a number of proposed methods were not taken advantage of, and the nickel smeltery was left in the position that ore parcels containing any appreciable copper contents could not be considered.

One research method which was carried out in a pilot plant showed promise of no little success, and the only reason for not developing it on the large scale was the amount of associated by-product work—more related to the chemical factory than the metallurgical layout. The dead roasted refined nickel matte containing upwards of 5 per cent copper, was ground and finely pulverized to pass through a 200-mesh sieve. From an early publication it was ascertained that boiling with concentrated oxalic acid could dissolve out the copper and leave the nickel oxide intact, but the costs of this, unless this acid could be fully reclaimed and repeatedly re-used, were readily apparent. The original method proposed to treat the solution from the nickel residue with milk of lime to precipitate calcium oxalate, which after filtering was digested in sulphuric acid to deposit calcium sulphate, and thus recover the oxalic acid. A number of trial runs were made with different adaptations, but in actual practice it was soon realized that while the method functioned quite satisfactorily, the recovery of oxalic acid rarely exceeded much beyond 90 per cent. Had there been a 100 per cent recovery, the costs of removing the copper would have been little more than the costs of sulphuric acid, and labour for handling, which would have been largely offset by the copper recovered, while further, the regular working schedule would not have been upset. Ordinary refined matte from the converter, running 70 per cent nickel, and practically free from iron and copper, is ground and directly roasted to nickel oxide, and the only difference with this proposed oxalic acid process was this intermediate leaching treatment. Every attention was therefore given to preparing oxalic acid on the spot, to be independent of outside supplies and high costs.

The system adopted comprised evaporating selected sawdust from deal or poplar with potassium hydrate solution until almost dry and transferring to ceramic plates in the form of fine layers. The mass is gently raised to between 180° and 190°C. with constant stirring, as it changes colour from one yellow shade to another when it is raised to nearer 200°C.

After cooling, the mass, which now has a dough-like consistency, is digested in water, boiled, the residue filtered off, evaporated to 70° Twaddell, and the brownish coloured liquor treated with milk of lime to precipitate calcium oxalate, which in turn is treated with sulphuric acid to give oxalic acid solution. Briefly, whereas potassium hydrate solution treatment gives up to 80 per cent recovery,

the mixture of 60 per cent soda and 40 per cent potash used in chemical factories, which ensures the same recovery, involves much more work in the final reclamation. Likewise, the chemical factory method of crystallizing the oxalic acid to remove remnants of lime and sulphuric acid was omitted, and the solution used directly for dissolving out the copper.

Practical points in the final conversion of calcium oxalate are the use of sulphuric acid of 23° Twaddell, with gradual stirring to prevent stiffening due to gypsum formation, at 40° and use of three equivalents of acid to one of oxalate. When operated in this manner, with crude oxalic acid prepared on the spot, any small loss sustained during processing the roasted matte could readily be replenished, with no need to use it sparingly. It was found that best results accrued by running the roasted matte into the hot acid in a stir-tank in a fine stream, followed by final boiling, when the copper contents remaining in the residue could be reduced by 0.01 per cent.

ELECTRO-REFINING

The problem of getting rid of copper was tackled from another angle following researches which had been carried out elsewhere.

It was known that electrolytic refining could be successfully applied to crude nickel containing small amounts of copper and iron, provided these did not exceed a certain small maximum, but the work became more complicated where cupro-nickels were substituted as the anodes. One experimental lot containing 80 per cent nickel, 18 per cent copper, and 2 per cent cast iron was cast into anode moulds weighing about 5 lb. each, and which were 5½ inches in width, by 5½ inches in length. Although cast in the usual shape for anodes, two lugs at either side at the top had to be drilled and tapped for copper rods. These were suspended in an electrolytic bath, with cathodes of sheet aluminium 6 in. by 6 in. in length, while a diaphragm in the form of a light canvas bag, kept distended by having it erected over a wooden frame, was used to house the cathode in each instance.

The electrolyte comprised a solution of nickel sulphate maintained at between 5.5 and 6.5 per cent nickel, to which 3.5 per cent of calcium carbonate, in the form of calcite reduced to pass through a 200 mesh sieve, was added, and by means of a circulating pump, kept in constant suspension. This was claimed to give an ampere efficiency of 98 per cent when worked at 2 volts and 13 amps. per square foot of cathode surface. The nickel so obtained was free from iron, and contained 0.0135 per cent copper, while the precipitated slime, which at times tends to form an adherent crust on the anodes, contained all rarer constituents. This process really depends on the principle that iron and then copper are precipitated before nickel by calcium carbonate emulsion, as was known earlier, but adapted for electro-refining. In trying-out this process it was found that the pores of the canvas diaphragm at times tended to clog up unduly, while as the iron was largely in the ferrous condition, this did not lend itself to simple separation except by dint of using a large surplus of calcite suspension. Taking advantage of this experience, however, the method was adapted to handle samples of metal reduced from roasted converter matte which were practically iron-free, but containing from 3 to 5 per cent copper. The equipment used for this was an electrolytic bath on the same lines as is employed for white-lead production, i.e., with anolyte and catholyte working like separate processes. In place of an emulsion of calcium carbonate, a solution of sodium carbonate was continuously run in as the electro-refining proceeded. The electrolyte which flowed from one bath to another contained 6 per cent nickel as nickel sulphate initially, maintained at between 40° and

50°C. to which was added a solution containing 0.5 per cent sodium carbonate, while 2.8 volts were required. The sodium carbonate separated the iron and copper with precision, and the resulting deposited nickel rarely contained as much as 0.01 per cent copper, but at the same density as used previously, namely 13 amps. per sq. ft. of cathode surface ampere efficiency, seldom exceeded 80 per cent. Further researches revealed that where still higher copper contents were used this efficiency diminished still more. While it is known that an improved electro-refining system deposits the nickel directly, the foregoing method up to a point suffices for handling those ores which can be depended upon never to contain really high copper contents.

Lastly, reference may be made to attempts at directly recovering the metals from matte by electro-refining methods, corresponding to what was tried in earlier years with copper matte. These, however, turned out to be only of academic interest, as the resistances set up varied so markedly as the electrolysis proceeded that no really dependable deposits of proper metallic nickel could be obtained. Further, the matte anodes became pitted more at some parts than others, while anode slime got the opportunity to collect on the surface with a true metal surface. When attempts were made to use an adaptation of the Moebius system with reciprocating scraper, solid pieces of the matte became broken off, and for this and other reasons electro-refining researches were limited to handling metallic anodes.

REVIEWS

Industrial Diamond Trade Names Index

We have just received a copy of the new edition of the *Industrial Diamond Trade Names Index* for 1951-1952, compiled jointly by the Industrial Diamond Information Bureau and *Industrial Diamond Review*. This is a revised issue of the 1951 edition and lists approximately 1,500 trade names of manufacturers of diamond tools, abrasives, etc. Actually, not only trade names have been listed, but also generally used abbreviations and names of firms which are well known in the trade. A classified index has been prepared according to subject matter so that with one glance one may find out the trade names which are used in a particular branch, e.g., diamond polishing equipment, diamond tools, etc.

The Mechanical Properties of Nickel Alloy Steels.—

Issued by the Mond Nickel Co. Ltd., Sunderland House, Curzon Street, London, W.1. Pp. 84. 6½ in. x 9½ in.

This useful publication summarizes the mechanical properties of representative heat-treatable nickel alloy steels, to provide a reference for the use of engineers, designers, metallurgists, and heat-treatment superintendents. For the sake of compactness the heat-treatable steels have been confined to those which are used in the case-hardened or hardened and tempered condition.

The steels are divided into two main groups, direct-hardening and case-hardening. Specification details (chemical composition, heat-treatment and mechanical properties) are given for each steel, together with representative test results which show the effect of mass. Tempering diagrams are included for the direct-hardening steels.

To meet the present need to conserve alloying elements, there are some "economy" steels. Many of the standard steels described will again be available when the present situation has passed, so that the publication will provide useful information to those now dealing with designs in the early stage.

The English Electric Company's Activities in 1951

As in previous years, the English Electric Co. made a noteworthy contribution to the further development of ore mining and metallurgical industries, both in this country and abroad.

As regards hydro-electric plant, amongst the orders received was that for the 106,500 kVA 327 r.p.m. generator for the Kemano Power Station of the Aluminum Co. of Canada—the largest generator ever manufactured by a British company.

DIESEL ENGINES

There was a steady continuation in overseas demand for industrial and traction Diesel engines. Orders included Diesel-generating sets for a number of large industrial companies to assist in meeting their winter load demands. Contracts for Diesel generating plant were also received from the Service departments as part of the defence programme. Two of the company's dual fuel engines, to operate on sewage gas and fuel oil, were being commissioned at the end of the year for Coventry Corporation, and further contracts for this class of engine were received, including five 8-cylinder "RL" type engines to run on methane gas and drive alternators at the Point of Air Colliery of the National Coal Board near Wrexham.

The steadily growing volume of orders for sealed steel tank air-cooled mercury-arc rectifiers reflects the widening fields for this class of plant, both at home and overseas.

During 1951, major applications were to steel mills for main mill drives, some using grid control for starting and a combination of grid control and on-load tap changing for speed variation.

Fifteen 4,000 kW 1,500 volt equipments have been ordered by the New South Wales Railways in connection with the electrification of the Sydney-Lithgow line which handles heavy coal traffic over the long severe grades of the Blue Mountains.

For other industrial applications, the first of four 10,000 ampere 325 volt equipments used for the electrolytic refining of copper or zinc in Northern Rhodesia was commissioned during the year.

MINING PLANT

Orders for mine winders and haulage equipments from the National Coal Board, and from South Africa and Australia, have been on an increasing scale during 1951. The equipments concerned vary in size up to nearly 4,000 h.p. and the majority are A.C. driven winders, utilizing the company's patented scheme of automatically compensated D.C. dynamic braking and with the rotors connected in series for twin motor drives.

Amongst the A.C. equipments ordered are a complete 1,725 h.p. winder and a 1,038 h.p. haulage for the National Coal Board, both of which will be provided with D.C. dynamic braking and control desks. The 1,725 h.p. winder, which will replace an old existing steam winder, will have a bi-cylindro-conical drum driven through single reduction gearing. This B.C.C. drum winder will be one of the largest A.C. winders of its type in the U.K. Also several conversion equipments are in hand for the N.C.B.

To duplicate existing equipments in South Africa, a 1,300 h.p. double-drum winder has been ordered complete with control desk fitted with precision miniature depth indicators. Two smaller A.C. winders have also been ordered for South Africa.

Orders for Ward-Leonard winders requiring motors varying between 188 and 3,950 h.p. (R.M.S.) rating have been received. Four of the winders are to have automatic acceleration control, operating on the closed loop system,

which enables precise control to be achieved. One large winder, for Australia, is to help in the drive for more pyrites. Another, of 3,950 h.p. (R.M.S.) is for use in a British coalfield, and will be the largest B.C.C. drum equipment to be installed in this country; it will be driven through single reduction gearing by twin motors.

Twelve A.C. winders for South Africa, totalling 35,180 h.p. (R.M.S.) and fitted with dynamic braking, have been delivered during the year, nine of which are already in commission.

Several orders were placed by the National Coal Board for salient pole synchronous induction motors of 900-1,000 h.p. for driving mine compressors.

As regards railway locomotives and traction equipments, four flameproof battery locomotives have been ordered by the N.C.B.—the first of this type and size to be ordered for service in gaseous mines in this country. These locomotives weigh 12 tons each (the largest locomotives of this type made in this country so far are believed to weigh 7 tons); they have contactor type control, enabling two locomotives to be operated in multiple-unit from one cab, and they are also the first in this country to have double-reduction Spur gearing between the traction motors and the road axles.

ELECTRICAL PLANT FOR THE METAL INDUSTRIES

The export market has noticeably contributed to activity in this sphere and involves orders from six overseas countries. Equipments commissioned in the last twelve months represent collectively most types of rolling mill equipment, including drives for hot-reversing mills, tandem cold strip mills, temper mills and hot-mill auxiliaries.

One of the outstanding contracts commissioned was a double-armature drive for a 46 in. blooming and slabbing mill in the new hot strip mill plant of the South African Iron & Steel Corporation. This drive is rated at 7,300 h.p. (R.M.S.) and 54/120 r.p.m., and was supplied complete with Ilgner set, control equipment and a considerable amount of main distribution switchgear, transformers and rectifiers. The large D.C. motor and its generators were duplicates of three other sets of equipment in the other works of the South African Iron & Steel Corporation.

Electrical plant for the new Abbey Works of the Steel Co. of Wales which will eventually contain three major rolling mills, was another important contract in hand. One of these mills, the 45 in. slabbing mill, has been in commission for over a year and has the first twin drive in the British steel industry, and the largest reversing drive in Britain. The peak h.p. rating is 27,600, the speed 40/80 r.p.m. and the maximum torque 3,600,000 lb. ft. Another of these large mills is the three-stand cold tandem mill which has recently been successfully commissioned. The mill is 80 in. wide and has a top speed of 2,000 ft./min.; strip up to 72 in. wide can be rolled at an average rate of about 3 tons a minute. The four D.C. motors are all double-armature units, three being rated at 4,000 h.p. and the reel motor at 1,000 h.p. at speeds of 85/221, 140/300, 170/360 r.p.m., respectively.

The year 1951 saw the successful commissioning of the seventh 800 ft./min. cold strip mill for cold rolling (tempering) aluminium strip at a large aluminium works in Britain.

Equipments delivered but not yet commissioned include a 7,000 h.p. 50/120 r.p.m. hot reversing steel mill drive, the second of three ordered for Australia and a semi-continuous aluminium rod mill for South Wales, which has two A.C. motors for the roughing and intermediate stands, seven 150 h.p. D.C. motors for the continuous finishing train and a complete set of auxiliary drives and fittings.

Machinery and Equipment

Bit Experience in Hard Rock Drilling

Drilling in the underground mines of the Mesabi and Vermilion Ranges of Northern Minnesota requires a large variety of drill machines and bits states Mr. Earl M. Holmes (Assistant Superintendent, Oliver Iron Mining Co., Soudan, Minn.), in a paper presented at the American Mining Congress, held recently in Los Angeles. He points out that the ground varies from soft limonite to the hard ore and jasper of the Soudan Mine: the Soudan jasper is reputed to be the hardest rock that is regularly drilled in any commercial operation in the United States, and that the ore with which it is associated is only slightly less hard. Records show that machines drilling some of the ore with solid forged steel averaged less than two in. of hole per hour and used ten pieces of steel per in. In fact, it required 2,700 lb. of drill steel for a 6 ft. hole.

Tests have been made with jet piercing, and various drill machines and bits, in a constant search for a better method of drilling this hard material. During the past six years, about 90 per cent of the Soudan ore has been mined by blast holes drilled with rotary drill machines, using EXT diamond impregnated coring bits. Tests are now being conducted with light drill machines and tungsten carbide bits, which give promise of cutting drilling costs by about 35 per cent in at least part of the ore stopes.

In drilling such hard ground it appears that machines should be about 2½ in., and strike light, fast blows, with a strong but slow rotation, preferably with a cushioning effect, such as an air column mounted, reverse feed stopper.

Rods with a large thread, fitted quite tight with very close tolerance, bits should be about 1½ in., with wide heavy wings to back up the tungsten carbide inserts. For best all-around results, bits should not get very dull, but be reground frequently, some bits being sharpened as much as fifteen times before the inserts shatter.

New Holman Holbit Grinder Type "ABG"

The Holbit Grinder Type "ABG" has been developed by Holman Bros., Ltd., Camborne, Cornwall, in conjunction with the Abwood Tool Engineering Co. and is especially recommended for redressing Holbits with ease and accuracy.

Two grinding wheels are fitted, one at each end of the spindle. Wheel "A" is for redressing the gauge of both cross and chisel bits. Mandrels can be supplied for all sizes and types of Holbits. Wheel "B" is for redressing the cutting edge for cross-type bits and a grinding wheel, face "K," dressed to a double bevel of 40° is necessary. This wheel can also be used for chisel bits, but if chisel bits only are being used a flat-faced wheel as Wheel "A" can be used. The workhead spindle is arranged to take a 3 in. chuck. This enables the grinder to be utilized for other general grinding purposes.

The coolant system is completely built in with no outside supply pipes. A suds tank with an electric submersible pump is located in the base of the machine and is easily accessible for cleaning. The pump is controlled by the main motor switch and operates only when the motor is running.

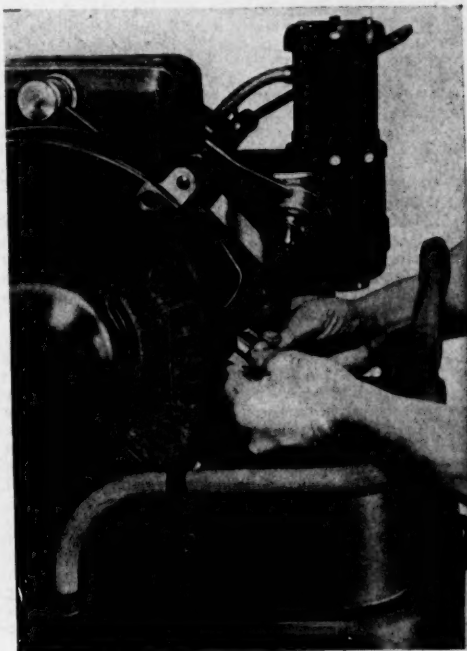
Specifications of the new Holbit Grinder are:

The main spindle is of high tensile steel and of large diameter, equipped with adjustable taper roller main bearings, completely sealed against entry of grinding dust or coolant and grease-gun lubricated. Patent locknuts are also fitted to prevent wheels coming loose with the operation of electrical reverse.

The main motor—(2 h.p. spindle speed: 1,742 r.p.m.)

is a special reversing flange-mounted type built completely into the body of the machine. The flange is arranged to swing downwards for tensioning the vee-belt drive to the spindle.

Wheel sizes: it is essential that silicon carbide (green grit) wheels be used for redressing Holbits. The wheels



The Holbit Grinder Type "ABG"

recommended and supplied are: Carborundum GC60-K5-VG. If wheels of any other make be employed, they should be of the same grit and grade.

Sizes are: wheel "A," 12 in. dia. x 1 in. x 4 in. arbor, flat face. (305 mm. x 25 mm. x 102 mm.). Wheel "B," 12 in. dia. x 1 in. or ¾ in. wide x 4 in. arbor, K40° face (305 mm. x 25 or 20 mm. x 102 mm.).

General dimensions: height 4 ft. 4½ in.; width 2 ft. 10½ in.; depth 3 ft. 0½ in.; net weight 1,600 lb.

More Euclid Trucks Used by Mount Lyell

The annual report of the Mount Lyell Mining & Railway Co. states that the company strengthened its open-cut transport fleet by the addition of three more Euclid trucks. These trucks, the report adds, have demonstrated their superiority over any other type used at West Lyell.

New Miners' Helmet

A new design in miners' helmets is now in production by Helmets Ltd., Wheathampstead, Herts. It is fabricated from rigid polyvinyl chloride, and conforms to B.S. specification. Extremely light in weight, it is claimed to give a high degree of protection and to be completely resistant to moisture and to chemicals. It is made, as standard, in white, but black is also available and can be supplied with or without lamp brackets.

METALS, MINERALS AND ALLOYS

Critics continue their sniping at the price controls on metals. The President of the St. Joseph Lead Co., Mr. Fletcher, has said that the shortage of lead in the U.S. during 1951 was artificially created by "unrealistic price ceilings." His cure was the restoration of the free market. Mr. Manly Fleischmann of D.P.A. complained that as the price of copper was higher in the free markets of Europe, than the ceilings fixed by the U.S. authorities, large quantities of the metal were moving to Europe. His cure was the closing of the remaining free markets. His statement is puzzling since he said that conversations were going on with the U.K.; for a long time the Ministry of Materials has based its buying price on the American export price of 27½c. per lb. A vice-president of the Anaconda Copper Co. also attacked the fixing of copper prices. His argument was that the price of 24½c. for domestic production was preventing an expansion in output. An additional 3c.—bringing the domestic price up to the export level—would, in his opinion, raise production by 100,000 to 150,000 tons per year.

D.P.A. Conservation Division considers that the metals position remains critical but has not become worse. Seven metals were excepted from this general rule: cadmium is now easier, and the positions of copper, nickel, cobalt, tin, lead and zinc are tighter. An earlier report gave N.P.A.'s prediction that the zinc shortage might ease by April.

COPPER.—Just before Christmas the I.M.C. copper allocations for the first quarter of 1952 were announced. The U.S.A. is to receive 366,000 tonnes and the U.K. 100,000 tonnes out of a total allocation of 744,680 tonnes. Chile will again contribute 80 per cent of her total output to the allocation scheme. Quotas for U.S. copper exports for the same period have also been announced and include 12,000 s.tons of refined copper, 5,667½ s.tons copper in Controlled Materials' Plan shapes and forms, and 3,000 s.tons scrap. The principal beneficiaries will be France, Germany, Italy, The Netherlands, India and Brazil.

The Chilean House of Representatives Finance Committee has suggested an export tax of 6c. (U.S.) per lb. on copper. At present the Government takes, at a fixed price, 20 per cent of copper produced in Chile and sells it on the free market. As the results of this measure look like being disappointing, the new suggestion is thought to be a substitution. If the new proposal is more profitable than the old one, the copper producers will probably be hard hit.

Output of blister copper in Northern Rhodesia during October was 20,680 tons against 19,115 tons in the previous month. Production of electrolytic copper rose to 9,852 tons in October from 7,140 tons in September. It is announced that the British Metal Corporation have been appointed selling agents for Rhokana Corporation and Nchanga Consolidated Copper Mines throughout the world excepting Belgium, France, Switzerland, the Rhodesias and the Union of South Africa.

LEAD.—To conserve lead supplies, N.P.A. is to restrict lead storage batteries from March 1. Mexican lead at 21c. f.a.s. Gulf for January shipment found buyers reserved.

U.S. production of refined lead in November was 36,234 s.tons (34,273 in October) but shipments increased more rapidly from 31,164 s.tons in October to 37,084 in November.

TIN.—Tin continues to be the most discussed metal. The news from Indonesia is the suggestion that a long term contract with the U.S. would contain a clause linking the price with the wholesale commodity index. According to a Washington report, an official of R.F.C. considered that the suggestion was "worthy of consideration" and "not unreasonable." Any protection afforded to the government of Indonesia, as the tin producer in that country, could not, according to this official, be extended to the private producers in places such as Malaya. Both the U.S. and Indonesia have been at pains to emphasize that no definite proposals have been made, and it appears that the sending of an Indonesian tin mission to Washington would not guarantee the signing of a pact. An Indonesian spokesman has said that as no binding undertakings have been made with the U.S., it is not impossible that discussions on tin sales to other countries—suggested to be the Soviet Union—are taking place.

The Indonesian government reports that Mr. Wilson, head of the U.S. tin mission in Indonesia, said that he was in favour of setting up a big smelter in Indonesia so that the country could sell its tin in the form of metal and not as ore. It would be surprising if the Americans seriously want to increase the world's smelting capacity. This is in the region of 300,000 to 350,000 tons, and tin smelter production is only around 172,000 tons. If the Indonesians were to erect such a smelter, it would be at the expense of the Dutch, who are smelting about 21,000 tons of tin metal. This suggests that the new plant, if it is built, would not add very greatly to the total world capacity, but it would affect the Dutch very severely, and withdraw about 12 per cent of present production from the existing smelters, consequently increasing the overheads. The scheme seems to be a waste of good materials for nationalistic ends.

Mr. Stuart Symington's contribution to the discussion has been to say that R.F.C. has been buying tin "quietly" from sources other than Bolivia. He gave no indication of the source of the quantity except to suggest that it was larger, or of the price.

World production of tin-in-concentrates in October is estimated at 14,300 tons against the revised figure of 13,500 tons for September. Malayan output in November was 4,815 tons compared with 4,873 tons in October. The total for the eleven months is 52,008 tons, against 52,838 tons for the same period last year, showing a decline of 830 tons.

Indonesian tin shipments are running about one per cent more than last year: exports during the first eleven months of the year totalled 27,559 tons, against 27,332 tons for the comparable period of 1950. Shipments of ore in November leaped up to 2,958 tons, against 2,004 tons in October.

ZINC.—As in the case of copper I.M.C. allocations for the first quarter of 1952 have been announced since our last. The total amount allocated is 487,650 tonnes of which 229,000 tonnes are allotted to the United States, 64,000 to the U.K., 41,000 to Western Germany, 29,000 to France and 26,000 to Benelux. In making its allocation the Committee reported that the demand for defence and essential civilian needs showed an increase over the last quarter of 1951 and in view of this it had decided temporarily to make no provision for strategic stockpiling.

ALUMINIUM.—After keeping the price of aluminium unchanged for a year, the Ministry of Materials has authorized the increase from £124 to £148 per ton delivered into the consumers' works. The earlier change lifted the price from £120 to £124 per ton. The Ministry gave three reasons for the increase in price: first, higher prices to the Canadian producers, who send about 85 per cent of U.K. supplies; secondly, the appreciation of the Canadian dollar; and, thirdly, higher sea and land transport costs. As a direct consequence of this change, the Ministry has raised the price of aluminium scrap.

Mr. Richard Reynolds of Reynolds Metals—the company quoted by Mr. Symington as having produced an aluminium can to compete with tin-plated steel—has predicted a record U.S. production of "well over 1,000,000 s.tons in 1952." Production in 1951 was around the 800,000 s.tons level; this was about 100,000 s.tons less than the war-time record of 900,000 s.tons. According to Mr. Reynolds, production in 1953 will be about 100 per cent above the 1950 level of 719,000 s.tons.

Because Canada has reduced shipments of aluminium to the U.S., exports from the Dominion to the U.K. were about 50 per cent higher in the first ten months of 1951 than in the corresponding period of 1950; the actual amounts were 165,000 s.tons in January-October, 1951, against 110,500 s.tons in January-October, 1950.

NICKEL.—The International Materials Conference has announced an allotment of nickel for January. This is a provisional allotment, designed to make up time lost by the delay in receiving replies from some countries. The sub-committee reckons that it can produce a firm plan by the end of the present month, but it is not clear whether the plan will cover the first quarter of the year, or will be a longer-term project. It will cover all marketable forms of primary nickel except nickel salts. The decision to raise the price of

aluminium may be of significance to users of nickel in the U.K.; the appreciation of the Canadian dollar, one of the reasons for the higher aluminium price, could also apply to nickel.

TUNGSTEN.—Plans for long-term supplies of wolfram are still under discussion in Washington but the outlook does not appear promising for an agreement. It will be recalled that the I.M.C. plan was rejected last month by the tungsten-producing countries who have so far put forward no alternative proposals of their own.

The maximum price in the States may be called \$60 (480s.), f.o.b. In the United Kingdom no ceiling price has been agreed upon at the moment, the three leading concerns bidding 485s. c.i.f. per 1-ton unit for approved material. The official selling price remains at 535s. per unit d.d.

The U.S. Export-Import Bank has approved a loan of \$1,000,000 to the Bolivian Tin and Tungsten Mines Corporation to help expand the production of tungsten from the Kami Araca mines. The loan would be used to buy and send U.S. machinery and equipment, and to finance exploration and development. The corporation is to sell its tungsten output to the U.S. between 1952 to 1957.

The London Metal Markets

(From Our Metal Exchange Correspondent)

The traditional calm which normally reigns between Christmas and the New Year was shattered by the information received from Singapore on Friday, December 28. This was to the effect that the Singapore Exchange authorities had issued a new order which forbade the shipment of tin to Soft Currency countries unless the buyer had supplied a Bankers' guarantee to the effect that if the metal should be "on shipped" or reshipped to the Dollar area, the resultant dollars would be passed on to the shipper against repayment of the original currency payment. Most people have agreed for some time that every possible step must be taken to prevent other countries collecting dollars for Malayan tin, but it was not expected that such a comprehensive order would be necessary.

Owing to prompt action by both the Rubber and Tin markets, the order was temporarily suspended the next day pending further discussions, and it is understood that the Committee of the Exchange is now examining the position in order to make suggestions which will alleviate the difficulties which will arise if the order is not amended, but at the same time bearing in mind the necessity of bringing as many dollars to this country as possible.

The market itself has been featureless except for the continued absence of a backwardation.

The situation remains unchanged in the United States, except that it is now felt that some decision about America's re-entry into the tin market must be taken within a matter of weeks, and it is rumoured that the present dead-lock will be brought up between Mr. Churchill and the President at their forthcoming meetings, but it is unlikely that the question will be considered in any detail but rather that the metal will feature in general conversations on the distributing of raw materials on an equitable basis between the countries covered by the present allocation schemes for copper and zinc.

On Thursday the official close on the tin market was:—Settlement price £927 10s., Cash Buyers £927 10s., Sellers £928; Three months' Buyers £925, Sellers £927 10s. In the afternoon the market was steady. Turnover for the day was 160 tons. Turnover for the week was 800 tons.

The Eastern price on Thursday morning was equivalent to £917 per ton, c.i.f. Europe.

Iron and Steel

The new year has opened upon a subdued note. On Monday last railway rates were advanced by another ten per cent, coal and coke prices moved up again and to cover the extra cost of delivery the Ministry of Supply authorized modest increases in the controlled maximum delivered prices of iron and steel scrap. These increases vary, according to district and specification from 1s. 8d. to 3s. 6d. per ton.

The impact of these financial burdens on the steel industry will be severe, and may be heightened by the outcome of the negotiations which are due to take place before the end of the month, on the steel workers' claim for a reduction of their working week from 48 to 44 hours. It is not intended that there will be any interference with the continuous operation of the melting furnaces, but if hours are reduced more men will obviously be needed to operate the furnaces.

A further substantial rise in iron and steel prices would appear to be inevitable and an announcement may not be long delayed. Consumers, however, are less concerned with price levels than with their prospect of obtaining adequate supplies. It has been officially stated that steel requirements for 1952 will exceed the current rate of production by 1,500,000 tons.

Apprehensions of a steel famine have been intensified by the issue of allocations from the first Period after the rationing system comes into operation at the beginning of next month. It is stated that in some cases these allocations amount to no more than 50 per cent of consumers' minimum requirements. It is appreciated that the authorities are determined not to repeat the earlier error of issuing too much paper in pursuit of too little steel, and it is possible that there may be additional tonnages to supplement the original allocations. But the outlook at present is obscure.

JANUARY 3 PRICES

COPPER

Electrolytic £227 0 0 d/d

TIN

(See our London Metal Exchange report for Thursday's prices)

LEAD

Soft foreign, duty paid £175 0 0 d/d

Soft empire, including secondary lead £175 0 0 d/d

English lead £176 10 0 d/d

ZINC

G.O.B. spelter, foreign, duty paid £190 0 0 d/d

G.O.B. spelter, domestic £190 0 0 d/d

Electrolytic and refined zinc £194 0 0 d/d

ANTIMONY

English (99%) delivered, 10 cwt. and over £365 per ton

Crude (70%) £290 per ton

Ore (60% basis) 45/50s. nom. per unit, c.i.f.

NICKEL

99.5% (home trade) £454 per ton

OTHER METALS

Aluminium, £148 per ton. Palladium, £8 10s. oz.

Bismuth, 28s. lb. Platinum (scrap), £33.

Cadmium, 18s. 9d. lb. Platinum, £27/33 5s. nom.

Chromium, 6s. 3d. lb. Rhodium, £45 oz.

Cobalt, 17s. 6d. lb. Ruthenium, £30 oz.

Gold, 248s. f.oz. Quicksilver, £73 10s./£74

Iridium, £65 oz. nom. ex-warehouse.

Magnesium, 1s. 6d. - 2s. lb. Selenium, 25s. nom. per lb.

according to quantity. Silver (bar), 77d. f.oz. spot

Osmiridium, £35 oz. nom. and forward.

Osmium, £70 oz. nom. Tellurium, 19s. lb.

ORES, ALLOYS, ETC.

Bismuth 65% 18s. 3d. lb. c.i.f.

60% 17s. lb. c.i.f.

Chrome Ore—

Rhodesian Metallurgical (lumpy) £13 per ton c.i.f.

" " (concentrates) £13 per ton c.i.f.

" " Refractory £12 12s. per ton c.i.f.

Baluchistan Metallurgical £13 18s. 6d. per ton c.i.f.

Magnesite, ground calcined £26 - £27 d/d

Magnesite, Raw £10 - £11 d/d

Molybdenite (85% basis) 103s. 1½d. per unit c.i.f.

Wolfram (65%), U.K. 485s. nom. c.i.f.

Tungsten Metal Powder 35s. nom. per lb. (home)

(for steel manufacture)

Ferro-tungsten 33s. nom. per lb. (home)

Carbide, 4-cwt. lots £30 3s. 9d. d/d per ton

Ferro-manganese, home £41 8s. 2d. per ton

Brass Wire 2s. 7½d. per lb. basis.

Brass Tubes, solid drawn 2s. 1d. per lb. basis.

THE MINING MARKETS

(By Our Stock Exchange Correspondent)

Stock markets were more than usually idle during the Christmas period. Business was virtually at a standstill and indeed official markings for the Thursday following Boxing Day record the smallest day's business since the war.

A recent topic of discussion in the financial Press has been the future of jobbers. Jobbers' firms are a unique feature of the London Stock Exchange and materially contribute towards making a free market. In recent years high death duties, coupled with crushing income tax and surtax, have caused heavy reductions in the amount of capital available. This leaves firms ill-equipped to deal with heavy bouts of public selling and consequently prices are sometimes marked down further than the actual volume of sales justify. It seems inevitable that the question of permitting outside capital to be employed will before long come before the Council for discussion.

Gilt-edged began the New Year with a short-lived rally, reported to be caused by nervous bear closing on a thin market. Later, the recent overall tendency reasserted itself and prices again fell away. The immediate outlook for Gilt-edged securities is obscure, but it seems certain that companies requiring cash will from time to time be forced to sell securities, following the tightened policy of the Banks in the matter of granting credit facilities.

Kaffir shares fell away from lack of interest. Both Johannesburg and Paris were closed over the holiday periods of Christmas and New Year. Such interest as was evinced by the Cape was mainly directed towards base metal shares. Nevertheless there is a feeling that the outlook for gold is more hopeful than for sometime past, and that any sign of a fall in commodity prices should have an immediately beneficial effect on working costs. The coming months, however, should provide much of interest from the mining and technical viewpoints.

There is considerable development activity going on in the O.F.S. and Klerksdorp areas which should provide plenty of scope for interesting data and consequent calculations.

Platinum shares were fairly active during the week; Pots, Unions and Waterval all improved but in most cases finished below

best. This movement was attributed to a market rumour that antimony had been discovered on the Rustenburg property in which all the above mentioned companies are interested.

The continued strong demand for antimony also aroused considerable interest in Consolidated Murchison and the shares have been an active market at around £5.

Diamond issues also lost ground. The reported rift between the privately owned Williamson Mine and the Diamond Sales Corporation is now confirmed. As from the beginning of 1952 Dr. Williamson is at liberty to dispose of his diamonds as he pleases. Last summer he was reported as saying that he would probably set up his own selling organization and that he was not planning to flood the market with stones.

Tin shares were all easier. The position of the United States is still undefined. It is believed that they were unsuccessful in obtaining supplies from Indonesia, and it is thought that the whole matter may be brought up in the forthcoming talks between Mr. Churchill and President Truman. Towards the end of the week there was some small selective buying of leading producers.

Wankie Colliery were again a poor market. Further consideration of the figures and the Chairman's statement caused the drop. The company is still undergoing teething troubles in its drive to improve production. Shortage of suitable labour to work machines at the coal face resulted in a rise in costs and the mine is still unable to supply the requirements of all its customers. The government of Southern Rhodesia recently asked the board to transfer control to the colony and the U.K. Treasury has been asked if it will permit such a move.

Oil issues provided one of the few firm spots in the market. Shell Transport & Trading were in fair demand for investment purposes and another stimulant was speculation over the forthcoming interim dividend. Later it was announced that this had been maintained at 5 per cent, tax free. Fresh oil discoveries and record outputs in Kuwait have produced renewed enquiries for Anglo Iranian, which holds a half share in this field with American interests. Latest political moves have also raised fresh hopes of a settlement in Persia.

FINANCE			Price			+ or -			Price			+ or -					
Afr. an & Euro. S. S.			Jan. 2						Jan. 2								
Anglo-American Corp.			3						Anglo-American Corp.			3					
Anglo-French			21/3		-6d				Anglo-French			21/3		-6d			
Anglo Transvaal Consol.			37/6						Anglo Transvaal Consol.			37/6					
Camp Bird			12/8						Camp Bird			12/8					
Central Mining (21 shrs.)			40/		-7d				Central Mining (21 shrs.)			40/		-7d			
Consolidated Goldfields			48/9		-1/3				Consolidated Goldfields			48/9		-1/3			
Consol. Mines Selection			31/10 1/2						Consol. Mines Selection			31/10 1/2					
East Rand Consols.			3/4 1/2		-1 1/2				East Rand Consols.			3/4 1/2		-1 1/2			
General Mining			33/9		-1/3				General Mining			33/9		-1/3			
H.E. Prop.			33/9		-1/3				H.E. Prop.			33/9		-1/3			
Henderson's Transvaal			14/		-1/				Henderson's Transvaal			14/		-1/			
Johnnies			3/6						Johnnies			3/6					
Rand Mines			41/1 1/2		-1/10 1/2				Rand Mines			41/1 1/2		-1/10 1/2			
Rand Selection			41/1 1/2		-1/10 1/2				Rand Selection			41/1 1/2		-1/10 1/2			
Union Corporation			8/						Union Corporation			8/					
V-reviving Estates			4 1/2		-7d				V-reviving Estates			4 1/2		-7d			
Wits			31/10 1/2		-7d				Wits			31/10 1/2		-7d			
West Wits			42/6		-7d				West Wits			42/6		-7d			
RAND GOLD			Price			+ or -			Price			+ or -					
Blyvoor			43/		-1/9				Blyvoor			43/		-1/9			
Brakpan			18/		-9d				Brakpan			18/		-9d			
City Deep			30/		-3/8				City Deep			30/		-3/8			
Consol. Main Reef			38/8 1/2		-2/6				Consol. Main Reef			38/8 1/2		-2/6			
Crown			31/8 1/2		-2/6				Crown			31/8 1/2		-2/6			
Dagga			34/8 1/2		-2/6				Dagga			34/8 1/2		-2/6			
Dunlop Reef			22/9		-1/3				Dunlop Reef			22/9		-1/3			
Doornfontein			31/8 1/2		-2/6				Doornfontein			31/8 1/2		-2/6			
Durban Deep			24/		-2/6				Durban Deep			24/		-2/6			
E. Dagga			24/		-2/6				E. Dagga			24/		-2/6			
E. Geduld (4 1/2 units)			34/8 1/2		-2/6				E. Geduld (4 1/2 units)			34/8 1/2		-2/6			
E. Rand Prop.			34/8 1/2		-2/6				E. Rand Prop.			34/8 1/2		-2/6			
Geduld			61/8 1/2		-2/6				Geduld			61/8 1/2		-2/6			
Grootevlei			34/		-2/6				Grootevlei			34/		-2/6			
Libanon			13/8 1/2		-9d				Libanon			13/8 1/2		-9d			
Lybards Vlei			17/8 1/2		-6d				Lybards Vlei			17/8 1/2		-6d			
Malvale			21/8 1/2		-9d				Malvale			21/8 1/2		-9d			
Modderfontein B.			4/9		-1/3				Modderfontein B.			4/9		-1/3			
Modderfontein East			31/8 1/2		-2/6				Modderfontein East			31/8 1/2		-2/6			
New Kleinfontein			31/10 1/2		-7d				New Kleinfontein			31/10 1/2		-7d			
New Pioneer			16/3		-1/6				New Pioneer			16/3		-1/6			
Randfontein			15/8 1/2		-2/6				Randfontein			15/8 1/2		-2/6			
Robinson Deep			13/8 1/2		-9d				Robinson Deep			13/8 1/2		-9d			
Rose Deep			32/8 1/2		-3/8				Rose Deep			32/8 1/2		-3/8			
Simmer & Jack			6/		-8d				Simmer & Jack			6/		-8d			
Springs			84/8 1/2		-4d				Springs			84/8 1/2		-4d			
Sib Nigal			24/		-1/3				Sib Nigal			24/		-1/3			
Van Dyk			13/9		-1/3				Van Dyk			13/9		-1/3			
Venterspost			22/8 1/2		-1/3				Venterspost			22/8 1/2		-1/3			
Vlakfontein			17/8 1/2		-8d				Vlakfontein			17/8 1/2		-8d			
Voelstruisfontein			27/8 1/2		-1/3				Voelstruisfontein			27/8 1/2		-1/3			
West Driefontein			6						West Driefontein			6					
W. Rand Consolidated			45/3 1/2		-4 1/2				W. Rand Consolidated			45/3 1/2		-4 1/2			
Western Reef			41/8 1/2						Western Reef			41/8 1/2					
MISCELLANEOUS GOLD			Price			+ or -			Price			+ or -					
(contd)			Jan. 2						(contd)			Jan. 2					
G.F. Rhodesian			7/3		-6d				G.F. Rhodesian			7/3		-6d			
London & Rhodesian			8/9		-4 1/2				London & Rhodesian			8/9		-4 1/2			
Motapa			2/4 1/2						Motapa			2/4 1/2					
Mysore			5/3		+1 1/2				Mysore			5/3		+1 1/2			
New Guinea			1/7 1/2						New Guinea			1/7 1/2					
Nundwong			3/3						Nundwong			3/3					
Oregeum			3/3						Oregeum			3/3					
Oroville			12/6		-1/				Oroville			12/6		-1/			
St. John d'El Rey			37/6		+1/3				St. John d'El Rey			37/6		+1/3			
Zama			40/6		+3/				Zama			40/6		+3/			
DIAMONDS			Price			+ or -			Price			+ or -					
Anglo American Inv.			51		-				Anglo American Inv.			51		-			
Cats			36/9		+3/				Cats			36/9		+3/			
Cons. Diam. of S.W.A.			41/8 1/2						Cons. Diam. of S.W.A.			41/8 1/2					
De Beers Defd. Beers			151/8 1/2						De Beers Defd. Beers			151/8 1/2					
Chartered			69/		-3/4				Chartered			69/		-3/4			
Indian Copper			4/6		-6d				Indian Copper			4/6		-6d			
Messina			51		-6d				Messina			51		-6d			
Nobara			12/3		-4d				Nobara			12/3		-4d			
Rhod. Anglo-American			18/4 1/2		-6d				Rhod. Anglo-American			18/4 1/2		-6d			
Rhodesian Selection			24 1/2		-1 1/2				Rhodesian Selection			24 1/2		-1 1/2			
Rhokana			22 1/2		-1 1/2				Rhokana			22 1/2		-1 1/2			
Rio Tinto			22 1/2		-1 1/2				Rio Tinto			22 1/2		-1 1/2			
Roan Antelope			14/		+1 1/2				Roan Antelope			14/		+1 1/2			
Selection Trust			46/		+1/3				Selection Trust			46/		+1/3			
Tanks			59/9		+1/3				Tanks			59/9		+1/3			
Thariss Sulphur Br.			51/3						Thariss Sulphur Br.			51/3					
TIN (Eastern)			Price			+ or -			Price			+ or -					
Anglo-Burma			2/9		-1/				Anglo-Burma			2/9		-1/			
Ayer Hitam			27/9 1/2		-1/				Ayer Hitam			27/9 1/2		-1/			
Bongor			15/8		-6d				Bongor			15/8		-6d			
Copeang			15/6		-1/				Copeang			15/6		-1/			
Hongkong			18/6		-6d				Hongkong			18/6		-6d			
Ipoh			25/6		-6d				Ipoh			25/6		-6d			
Kamunting			17/4		-1 1/2				Kamunting			17/4		-1 1/2			
Kopong Dredging			11/		-1 1/2				Kopong Dredging			11/		-1 1/2			
Kinta Tin Mines			18/		-10				Kinta Tin Mines			18/		-10			
Kramat Pusi			4/4 1/2		-3d				Kramat Pusi			4/4 1/2		-3d			
Kuala Lumpur Dredging			32/		-1/3				Kuala Lumpur Dredging			32/		-1/3			
Pahang			16/9		-3d				Pahang			16/9		-3d			
Penahalan			11/3		-3d				Penahalan			11/3		-3d			
Petaling			15/7 1/2		-7d				Petaling			15/7 1/2		-7d			
Rambutan			15/7 1/2		-7d				Rambutan			15/7 1/2		-7d			
Siamese Tin			23/9		-4d				Siamese Tin			23/9		-4d			
Southern Kinta			15/6		-4d				Southern Kinta			15/6		-4d			
S. Malayan			27/		-6d				S. Malayan			27/		-6d			
S. Tronoh			21/8 1/2		-3d				S. Tronoh			21/8 1/2		-3d			
Selat			28/9		-3d				Selat			28/9		-3d			
Tekka Talping			28/9		-3d				Tekka Talping			28/9		-3d			
Tronoh			28/9		-3d				Tronoh			28/9		-3d			
TIN (Nigerian and Miscellaneous)			Price			+ or -			Price			+ or -					
(contd)			Jan. 2						(contd)			Jan. 2					
Anasabum Tin			10/3 1/2		-3d				Anasabum Tin			10/3 1/2		-3d			
Berait Tin			23/		-9d				Berait Tin			23/		-9d			
Himi			2/4 1/2						Himi			2/4 1/2					
British Tin Inv.			17/1 1/2						British Tin Inv.			17/1 1/2					
Ex-Lands Nigeria			6/1 1/2		-9d				Ex-Lands Nigeria			6/1 1/2		-9d			
Gevor Tin			14/3		-9d				Gevor Tin			14/3		-9d			
Gold & Base Metal			41/8 1/2						Gold & Base Metal			41/8 1/2					
Jantar Nigeria			7/		-3/				Jantar Nigeria			7/		-3/			
Jos Tin Area			11/6		-1/3				Jos Tin Area			11/6		-1/3			
Kaduna Prospectors			4/		-7d				Kaduna Prospectors			4/		-7d			
Kaduna Syndicate			17/3		-1/3				Kaduna Syndicate			17/3		-1/3			
London Tin			6/		-3d				London Tin			6/		-3d			
Ribon Valley			1/1 1/2		-1/10				Ribon Valley			1/1 1/2		-1/10			
SILVER, LEAD, ZINC			Price			+ or -			Price			+ or -					
Broken Hill South			54/4 1/2		+7 1/2				Broken Hill South			54/4 1/2		+7 1/2			
Burnma Corporation			41/6		-4d				Burnma Corporation			41/6		-4d			
Consol. Zinc			31/6		-3d				Consol. Zinc			31/6		-3d			
Lake George			23/9		-3d				Lake George			23/9		-3d			
Mount Isa			46/3		-3d				Mount Isa			46/3		-3d			
New Broken Hill			26/3		-1/3				New Broken Hill			26/3		-1/3			
North Broken Hill			70/		-1/4				North Broken Hill			70/		-1/4			
Rhodesian Broken Hill			21/		-10d				Rhodesian Broken Hill			21/		-10d			
San Francisco Mines			33/6		+2/3				San Francisco Mines			33/6		+2/3			
Trepca			3/9		-3d				Trepca			3/9		-3d			
MISCELLANEOUS BASE METALS & COAL			Price			+ or -			Price			+ or -					
Anglo-American S.A.			53/9 1/2		-1/3				Anglo-American S.A.			53/9 1/2		-1/3			
Anasabum Vanganese			52/3 1/2		-2/9				Anasabum Vanganese			52/3 1/2		-2/9			
Chinese Engineering			4/6		+1/6				Chinese Engineering			4/6		+1/6			
C.P. Manganese			49/3		-9d				C.P. Manganese			49/3		-9d			
Natal Navigation			4/		-1/3				Natal Navigation			4/		-1/3			
Wankie			18/6		-1/9				Wankie			18/6		-1/9			
Withnack Colliery			3/4		-				Withnack Colliery			3/4		-			
CANADIAN MINES			Price			+ or -			Price			+ or -					
Done			331/2		-				Done			331/2		-			
Hudson Bay Mining			\$125		-				Hudson Bay Mining			\$125		-			
International Nickel			\$81 1/2		-				International Nickel			\$81 1/2		-			
Mining Co. of Canada			7/		-				Mining Co. of Canada			7/		-			
Noranda			\$145		-				Noranda			\$145		-			
Queomont			\$81 1/2		-				Queomont			\$81 1/2		-			
OIL			Price			+ or -			Price			+ or -					
Anglo-Iranian			5 1/2		-7 1/2				Anglo-Iranian			5 1/2		-7 1/2			
Apex			48/9 1/2		-4d				Apex			48/9 1/2		-4d			
Burmah			61/10 1/2		-4d												

COMPANY NEWS AND VIEWS

Rhodesia-Katanga: The Kansanshi Scheme

Full details of the agreement for financing the investigation into Rhodesia-Katanga's old Kansanshi mine, situated near the Belgian Congo border, have been given to shareholders in a circular sent out by the Rhodesia-Katanga Company.

The agreement, which is subject to Treasury consent and to ratification by the shareholders, provides for the formation in Northern Rhodesia of a new prospecting and mining company to be known as the Kansanshi Copper Mining Company which will have an authorized capital of £875,000 in £1 shares of which 187,500 shares will be issued in the first instance.

In addition to the participation in the scheme of the Anglo American Corporation of South Africa which will furnish the geological and prospecting services required to carry out the deep drilling programme on the Kansanshi property, Tanganyika Concessions, through its subsidiary, Tanganyika Holdings, together with Roan Antelope Copper Mines and Mufulira Copper Mines will also take part in this scheme.

Rhodesia-Katanga will receive 30,000 shares in the new company credited as fully paid up, as consideration for the grant of exploration rights over the Kansanshi mine, including an option to purchase the mine and surface rights at any time during the four years ending December 31, 1955 for £500,000 payable as to £250,000 in cash and as to the balance by the issue of 250,000 £1 shares in the new company. An additional 18,750 Kansanshi £1 shares will be issued to Mwinilunga Mines as part consideration for the right to take cession of the exclusive prospecting rights over the Kansanshi Farm area. (The Mwinilunga Company was formed in Northern Rhodesia to take over these rights from the British South Africa Company.) The remainder of the Kansanshi company's initially issued capital will be subscribed for in cash at par as to £108,750 by Anglo American Corporation, £11,250 by Tanganyika Holdings and Roan Antelope and Mufulira will jointly subscribe for £18,750. This will enable an initial cash subscription of £138,750 to be obtained and will be used for the further exploration of the Kansanshi mine, including the deep drilling programme. If, as a result of this work, the new company decides to exercise its option, the balance of the capital, 687,500 shares of £1 each, will be issued in the following proportions, and credited as fully paid as part of the purchase price: 250,000 shares to Rhodesia-Katanga and 68,750 shares to Mwinilunga, giving a total of 318,750 shares. For cash at par the company will issue to Anglo American Corporation of South Africa 258,750 shares, to Tanganyika Holdings 41,150 shares, and Roan and Mufulira will receive the balance, 68,750 shares.

Out of the cash subscriptions thus obtained, the new company would pay Rhodesia-Katanga £250,000 cash, this being the balance of the purchase price of the Kansanshi mine. Thus, if the option is exercised, shareholdings in the new company would be as follows: Anglo American Corporation 42 per cent or 367,500 shares; Rhodesia-Katanga 32 per cent or 280,000 shares; Roan and Mufulira 10 per cent or 87,500 shares; Mwinilunga 10 per cent or 87,500 shares; and Tanganyika Holdings 6 per cent or 52,500 shares.

In addition to the foregoing, the agreement also contains the provision that Rhodesia-Katanga will have two members on the board of the new company out of a total of seven, while Anglo American will supply three, Mwinilunga one, and Roan and Mufulira one jointly.

If, however, the option is not exercised, Rhodesia-Katanga *inter alia* will have the right to purchase the shares in the new company held by the other participants at a price equal to the value attributable to such shares on a winding-up.

The board of Rhodesia-Katanga consider this agreement is one which may have great possibilities for the shareholders and accordingly strongly recommend it for their approval.

An extraordinary general meeting of Rhodesia-Katanga has been called for January 9 to approve the proposals.

London and Rhodesian Mining and Land

London and Rhodesian Mining & Land Co. is engaged in mining both directly and indirectly and has, as its name implies, agricultural interests in Southern Rhodesia where it carries on the business of ranching and real estate. It also has a portfolio of

investments, principally of gold mining companies from which it receives income by way of dividends and share dealings.

For the year to June 30 last the consolidated profit and loss account showed that gross income from dividends and interest amounted to £47,577 (£36,874), while its profit from share dealings jumped from £4,075 to £47,066, and these two items, together with sundry revenues, gave a total income from the London end of its business of £109,609 compared with £55,448. However, income from its mining, ranching, and real estate activities in Southern Rhodesia prevented the year being a banner one as receipts dropped from £184,292 to £94,122. Expenses were higher, depreciation charges heavier, but taxation liabilities were lighter, being £51,178 against £66,845. Net profit was £54,597 against £93,689.

From the £101,110 (£135,743) available, general reserve received £22,194 (£61,787), the dividend distribution was maintained at 6 per cent absorbing £31,350 leaving the carry forward at the fiscal year end slightly lower at £47,566 against £47,831 brought in.

Since the close of the financial year, the company has taken over 700,000 shares of Coronation Syndicate formerly held by Eastern Transvaal Consolidated.

Rambutan Produces Less But Earns More

Although Rambutan treated more ground during the year to June 30 last than in the previous year, yield per cu. yd. declined from 0.59 lb. to 0.43 lb. per cu. yd., with the result that output suffered a decline of approximately 16 tons.

Year to June 30	Treated (cu. yd.)	Yield per cu. yd. (lb.)	Output (tons)	Cost per cu. yd. s. d.	Production Cost per ton £ s. d.	Price per ton £ s. d.
1950	384,300	0.59	101½	11	179 1 9	356 1 1
1951	448,300	0.43	85½	10	271 15 1	644 16 10

On the other hand, the price received per ton tin ore was higher by some £288 lifting revenue from tin ore sales to £65,762 against £42,778 in the preceding year. This figure was augmented by £7,053 (£5,771) received from tributes. These were the two main items comprising the gross income of £76,894 (£51,254). Mining expenditure was higher but this included security costs which, no doubt, were relatively heavy as bandits were active in the vicinity of the mine during the year.

Taxation absorbed the lion's share of the mining profit, taking no less than £23,310 (£13,139) of the working profit of £39,128. The dividend distribution was raised to 15 per cent against 12½ per cent, general reserve received £5,000 (nil) and after appropriating £1,530 for capital expenditure the forward balance at the fiscal year-end stood at £10,123 against £8,683 previously.

No assessment of the company's claim for war damage has yet been received, but this disappointing news was more than offset by the statement in the general manager's report that approval has been given to the company for the issue of a mining lease over 3½ acres of a government road which goes through the property. When the company has completed a satisfactory deviation of the road and government pipeline this acquisition will enable it to treat the high values which adjoin the present road in depth.

Malaysiam Has Difficult Year

There were several good reasons given in the full report and accounts of Malaysiam Tin to March 31 last to explain the sharp drop in output from 166.78 tons to 54.40 tons.

Year to Mar. 31	Treated (cu. yd.)	Yield per cu. yd. (lb.)	Output (tons)	Cost per cu. yd. s. d.	Production Cost per ton £ s. d.	Price per ton £ s. d.
1950	503,000	0.48	106½	12	287 10 3	345 7 0
1951	407,500	0.29	54½	13	471 13 1	553 9 3

A bomb dropped by the R.A.F. during operations against bandits brought operations to a standstill for one month; one gravel pump was transferred to another section where it was put to work on the unproductive but necessary task of stripping barren overburden; and finally, terrorist activity in the district was fairly active. The accumulative effect of these adverse features was the reduction in the yardage treated and the tin ore recovered and the raising of production costs.

However, the advance in the price received per ton tin ore by £208 per ton to £553 per ton did much to rectify the situation, proceeds from the sale of its tin ore amounting to £30,107 against £36,879 previously. Furthermore, revenue from the tributaries more than doubled at £11,546, against £5,303, and profit from the company's Tambun Rubber Estate was up from £742 to £4,467. Mining expenditure was also less at £25,738 compared with £30,750 and these factors were enough to give the company a working profit of £18,692 or almost double the previous year's earnings of £9,419. The taxation burden was more onerous requiring £11,856 against £5,179, and thus net profit figured at £6,836 compared with £4,240 in the preceding year.

General reserve was strengthened by the allocation of £5,000 (£3,000), the dividend distribution at 5 per cent brought the company back into the list of dividend payers after three years' absence, and absorbed £3,908, leaving the carry forward lower at £5,253 against £7,325 previously.

At first sight it might appear that the transfer of the gravel pump from the Rambun section to the Tanjong Ara section should have been left to a more propitious time, but as pointed out in the report, the company's future is mainly dependent on the satisfactory development of the Tanjong Ara area.

Strong Financial Position of Apex

Production and deliveries of crude oil and casing head gasoline of Apex (Trinidad) Oilfields during the year to September 30 last were both higher than in the previous year, due doubtless to the bringing in of successful new wells to counteract the inevitable decline in output from its older areas.

Year to Sept. 30	Crude Oil Production (bbl.)	Gasoline (gall.)	Wells	Crude Oil Deliveries (bbl.)	Gasoline (gall.)
1950	2,833,000	3,549,000	351	2,821,000	3,519,000
1951	3,082,000	3,886,000	361	3,063,000	3,851,000

But if the company's technical position is impressive how much more so its financial position. At first sight the table below gives the impression that despite the better output and deliveries higher costs must have absorbed any increase in earnings. But this is not the case. Oil revenue in 1950 included receipts amounting to £408,022 received in final settlement for deliveries in prior years so that net earnings in 1951 were, in fact, substantially higher. Furthermore, the net figure was struck after providing £200,000 (£300,000) for expenditure in Trinidad, £100,000 (nil) for staff pensions and £99,654 (£94,732) for depreciation.

Year to Sept. 30	Oil Revenue	Gross Revenue	Tax	Net Profit	General Dividend	Forward
1950	1,704,199	1,735,557	1,025,000	609,142	450,000	35
1951	1,595,591	1,635,842	1,070,000	530,733	300,000	40

The latest balance sheet brings out clearly the company's strong financial position. Current assets total £4,999,057, of which cash accounted for £2,388,748, investments in government securities for £1,004,246, and investments in tax reserve certificates for £610,000, thereby comprising £4,002,994 of the total. Current liabilities amount to £1,343,593 (£642,154) and future tax liabilities to £1,093,942. Thus a net current asset figure emerges of £2,561,522 (£2,076,008), an increase of £485,514, which is itself not far short of the company's nominal capital of £550,000.

Company Shorts

Bangrin Tin to Split Stock Units.—To facilitate dealings in the stock of Bangrin Tin Dredging, the directors propose to split the £1 stock units into four 5s. stock units.

Corderoy Mines.—This company has announced the extension of the period during which the options issued by the company in July, 1946, to subscribers and underwriters totalling 505,000 shares has been extended from January 1, 1952, to December 31, 1952.

Anglo-Burma Tin Accounts Delayed.—Owing to unavoidable delays arising from the disturbed conditions ruling in Burma, it was not possible for the company to present its printed report and accounts for the year ended May 31, 1951, last year. The annual meeting will therefore be held on a date to be arranged early this year and the directors' report and accounts will be circulated with the notice convening the meeting.

Offin River Gold Pays 10 Per Cent.—Offin River Gold Estates is paying a final dividend of 5 per cent making 10 per cent (nil) for the year to May 31, 1951. Profit before tax amounted to £18,215 against a loss in the previous year of

£5,616. Taxation required £1,188 (£35), the dividend absorbed £15,679 leaving the forward balance higher at £4,141 against £2,793 previously. Lt.-Col. J. H. Levey is chairman. The annual meeting is provisionally arranged for January 21, 1952.

Shaft Intersects Vaal Reef at 5,882 ft.—Western Reefs Exploration and Development Co., and Vaal Reefs Exploration have announced that No. 3 sub-vertical shaft, which is being sunk jointly by the two companies, encountered the Vaal Reef at a vertical depth of 2,035 ft. below the underground hoist chamber level, or a total of 5,882 ft. below the surface. The reef has been fully exposed over the total perimeter of the shaft and on sampling yielded an average assay value of 75.62 dw. over 6.16 in. of 466 in.-dw.

S.W. Africa Purchases Additional Shares in Metallo Chemical.—Sir Dougal Malcolm, chairman of the South West Africa Company, in his statement to shareholders at the annual meeting held in London on December 14 said that the company had acquired additional shares in the Metallo Chemical Trust Company. It is through the latter company's subsidiary, Metallo Chemical Refining Company, that the South West Africa Company deals in connection with the treatment and disposal of its concentrates and other products. The aggregate shareholdings in Metallo Chemical Trust now amount to £57,500.

Sungei Way Dredging Pays 15 Per Cent.—A preliminary statement from Sungei Way Dredging covering operations for the year to June 30, 1951, reports a net profit, after providing £28,088 (nil) for Malayan income tax, of £153,077 against £139,418. The better results enabled the company to return to the dividend list after a two year absence, the interim dividend of five per cent being followed by a final of ten per cent. This distribution required £22,018. General reserve received nil against £108,500. This latter amount was allocated the previous year to meet the company's heavy commitments incurred in replacing its No. 1 dredge and in rehabilitating its No. 3 dredge.

The annual meeting was held in Kuala Lumpur on Dec. 27. Mr. J. H. Rich is chairman.

Malayan Export Controls.—The Foreign Exchange Control in Singapore has announced that a regulation which came into effect on December 24 qualifying exports of tin, rubber and pepper from Malaya to the non-Sterling area other than U.S. account countries has been suspended pending the outcome of further communications with London. The regulation stipulated that non-Sterling area countries would have to guarantee gold dollars for Malaya's tin, rubber and pepper in the event of these commodities being re-shipped or re-sold to the U.S. Contracts made during the period of suspension will not be subject to the restrictions and contracts entered into with London intermediaries before February 1, 1952, will also be excluded from the new restrictions.

Roan and Mufulira & B.S.A. Form New Companies.—In a statement issued at the end of last week Mufulira Copper Mines and Roan Antelope copper mines and the British South Africa Co. announced that two new mining companies have been incorporated in Northern Rhodesia. The two companies, which will be called Kadola Mines, and Luapula Mines, will each have an authorized share capital of £50,000 of which £25,000 will be issued shortly. The capital to be issued by each of the companies will be subscribed for in cash at par as to 45 per cent by Mufulira and Roan and as to 10 per cent by the British South Africa Co.

This same group has recently formed another new company in Northern Rhodesia called Mwinilunga Mines for the purpose of participating in the Kansanshi scheme with which the Anglo American Corporation of South Africa, and Rhodesia-Katanga are also associated. The Mwinilunga Co. has been incorporated with an authorized share capital of £100,000 of which £50,000 will be issued shortly. The capital to be issued being subscribed for in cash in the same ratio as in the case of the Kadola and Lupula Mines by the three companies concerned.

These three new companies are acquiring from the British South Africa Company exclusive prospective licences to prospect for minerals and to peg mineral locations and obtain special grants of mining rights over substantial areas in Northern Rhodesia.

DIVIDENDS

Amalgamated Collieries of S. Africa 2s. (Feb. 15)
 Idris Hydraulic Tin 3d. i
 Kinta Kinta Tin Mines 1½% i (Dec. 22)
 Powell Duffryn 3% i (Feb. 23)
 Rhodesia Broken Hill Development 25% i
 Springbok Colliery 1s. per 5s. unit of Stock (Feb. 15)
 South African Coal Estates (Witbank) 1s. 9d. i (Feb. 15)
 Tanganyika Concessions 8%
 i = interim

Topical News in Brief

New Japanese Iron and Steel Production Records.—Japanese exports of iron and steel reached a post-war record in November at 222,787 tons valued at almost \$40,000,000, the Kyodo News Agency reports. Australia was the largest customer, buying \$8,000,000 worth, followed by the U.S. with \$5,000,000 worth.

European Coal Exports.—European coal exporting countries have been asked to increase their shipments by 250,000 tons of coal and 150,000 tons of coke for the first quarter of 1952 if the essential minimum for satisfactory distribution is to be reached. The United Nations Economic Commission for Europe, announcing this in Geneva, said that owing to the uncertainties of the present solid fuel situation, it had been impossible to make any set distribution figures for the coming quarter.

Venezuela's Huge Iron Ore Reserves.—Estimated iron ore reserves in Venezuela are over 500,000,000 cubic tons of high percentage ore and 125,000,000 tons with between 25 and 45 per cent. U.S. steel companies have invested more than \$41,000,000 in Venezuela, and Iron Mines Company of Venezuela, a subsidiary of Bethlehem Steel Corp., estimates that, within four or five years, the country will be producing 10,000,000 tons of ore yearly.

New Mineral Named in Honour of Canadian Scientist.—A previously unknown mineral, found in the U. S. States, has been named Robinsonite in honour of Dr. S. C. Robinson of Queen's University, Kingston, Canada, who first identified it. The new mineral, bluish-gray in appearance, was discovered by a group of American geologists in Nevada. They sent a sample along with other mineral specimens, to the U.S. Geological Survey, Washington, D.C., for identification. However, the new sample did not match any known mineral and it was sent to Queen's University where Dr. Robinson matched it with a lead-antimony sulphide he had produced synthetically.

Further Increase in Austrian Magnesite Production.—Austrian production of magnesite continued to increase during the first 10 months of 1951 as a result of favourable export conditions. Total output during the period amounted to 552,000 tons of raw magnesite (representing a monthly average equal to 167 per cent of the 1937 monthly output, whereas production in 1950 was equal only to 137 per cent of 1937) and output of sinter magnesite, in the first 10 months of this year, came to 165,400 tons, equal to 185 per cent of the 1937 figure, whereas last year's percentage was 157 per cent. Exports in the first nine months of 1951 came to 261.5 tons of raw magnesite, valued at 125,000 Austrian schillings, and to 58,485 tons of sinter magnesite valued 58,200,000 schillings.

U.S. Experts for Italian Steel Industry.—U.S. foundry experts, the first study team of this nature sent to Italy by the U.S. under the Marshall Plan, will shortly survey Italy's steel and iron industry with the aim of suggesting means to increase output. Four of the six experts have already arrived and the remaining two are expected this month. They will study the whole production process in the country's 12 major foundries and in a large number of the remaining 840 smaller plants. The first objective will be to increase production, at present estimated to be only 60 per cent of capacity. The experts will then investigate the possibilities of extending this capacity. Italy currently produces 425,000 tons of steel and iron a year, employing 35,000 workers. Capacity is estimated at 700,000 tons a year.

U.S. Steel Seeking Oil Business.—The United States Steel Corporation plans to seek a share of the growing business in British Columbia, Reuters report from Vancouver. In one of its first moves into Canada under a new re-organization and expansion plan, the Corporation has incorporated at Victoria with head offices in Vancouver. The New York head office of the company reported that the incorporation involves the oil well supply company, a former subsidiary, which became a division of the U.S. Steel Corporation under the new re-organization of the parent company. A spokesman in New York was quoted as saying that the move was aimed at a share in the growing oil business. Steel industry men in British Columbia saw the action as a tie-in with the projected Alberta-British Columbia oil pipeline development and resultant Vancouver refinery expansion, involving more than \$20,000,000.

French Steel Export Restrictions.—The French authorities have banned the export of certain products made of special steel or steel alloys. Included are: blooms, coils, billets and roughings made of iron and steel powder and alloyed special steel. Certain other products may in future be exported only under licence—including steel alloy machine wire, rolled or forged bars, large flats and hot-rolled strips and also metallic constructions made of iron or steel. Previously, special steel

and steel alloy products were on the list of goods which could be shipped abroad under the export certificate scheme—which meant unrestricted exports were possible.

It has also been announced that exports of cast iron tubes and pipes, and metallic constructions made of iron and steel if they weigh more than five kilos per linear metre or 25 kilos per sq. metre will henceforth require approval by the technical ministries.

New Colliery at Rugeley.—The West Midlands Division of the National Coal Board has just announced that the new colliery to be established near Rugeley is to be named Lea Hall Colliery. It adds that the extensive and intricate preparatory work necessary to the sinking of the shafts and the opening of the mine is being pushed ahead as rapidly as possible. The colliery is to be developed to work the huge reserves of coal which borings have proved to exist east of the fault at Rugeley.

It is aimed to produce from this colliery 6,000 to 8,000 tons of coal per day, ultimately, working two shifts. If the electricity authority adopt the proposal to establish a power station close by the colliery, it is expected that a large part of the output of the pit would be supplied to the station. The coal would probably be conveyed from pit top to power station. When the colliery is developed, at least another 2,000 men over and above these already employed in the area will be required.

German Scrap Market Reorganization Pending.—Regulations to reorganize the West German scrap market, expected to be published by the Bonn Government shortly, will include the setting up of a central scrap exchange agency and the extension of already existing regulations, compelling dealers to place their scrap on the market and to inform the Government of the size of their stocks. *Stahl und Eisen*, reporting this, said that price regulations, re-establishing uniform prices for exports and home market sales, could also be expected.

Scrap exports from January to October 31, 1951, amounted to about 602,000 tons, including 296,000 tons to Britain, 75,000 tons to Italy, 42,000 tons to Austria, 54,000 tons to Sweden, and 51,000 tons to the U.S. November exports were estimated at 40,000 tons, almost equal to October exports. Domestic consumption in October, amounting to 637,000 tons, reached a post-war record. Stocks with furnace plants and steel works, however, dropped by about 200,000 tons. Stocks held by the trade amounted to 540,000 tons. The West German scrap yield in November was estimated at about 460,000 tons against 448,000 tons in October and 422,000 tons in September, according to the Association of West German Foundries.

Steel & Ferro-Chrome Production Prospects in S. Rhodesia.—“We have examined in the past 30 years very many important projects, and in my opinion there is no doubt that the availability of cheap raw materials, particularly iron ore, coal and limestone, which are in abundance in Rhodesia, represent one of the most economic propositions in the world.” This statement was made at Bulawayo on December 7 by Mr. Miles of John Miles and Partners, a U.K. firm of consultants, which is supervising the construction of the £600,000 additional plant at the Que Que steelworks. Mr. Miles revealed that the Gwelo ferro-chrome plant, for which his firm are also consultants for Messrs. John Brown & Co., should be in the first stage of production by May of this year.

The additional plant which is now being installed at Que Que should be finished within two years. When in operation, it will bring steel production at Que Que up to 50,000 tons a year. This additional plant should not be confused with the scheme to enlarge the Que Que works in stages. The first stage will involve about £5,000,000, and this is under consideration by the Government. If undertaken, this scheme will bring Que Que's production up to 110,000 tons of iron and steel which would still be 40,000 tons below Rhodesia's estimated annual requirements even now.

The Institution of Mining and Metallurgy has announced that the papers for discussion at the general meeting to be held on January 17, 1952, will be “Mineralization at Castle-an-Dinas Wolfram Mine, Cornwall,” by Mr. David Kerr, and “The production of pure cerium metal by electrolytic and thermal reduction processes,” by Mr. P. M. J. Gray.

The Council of the Chemical, Metallurgical and Mining Society of South Africa have announced the arrangement, in co-operation with the Diamond Research Laboratory, of a symposium on diamond drilling to be held in Johannesburg on April 21-22-23. During the three days' session, visits will be arranged to the diamond drilling operations in the gold and diamond mines of South Africa, and in the copper mines of Northern Rhodesia.

Those interested should apply for further information to the secretary of the Chemical, Metallurgical and Mining Society of South Africa, P.O. Box 1183, Johannesburg.

Mining Men

Mr. A. H. Ball has been appointed a director of Henderson's Transvaal Estates, London and Rhodesian Mining and Land, and of African Investment Trust.

Mr. R. S. Batai has been appointed to the staff of the Indian School of Mines and Applied Geology, Dhanbad, as senior lecturer in metalliferous mining.

Mr. Hugh Beck, former London office manager of Crossley Bros. has been appointed to a seat on the board of directors.

Mr. R. D. Brown, formerly European representative of Richard Sutcliffe, has been appointed sales manager.

Mr. J. C. Campbell, chief London representative of Keith Blackman, retired last month after 50 years' service. **Mr. D. J. Auld** has been appointed as his successor.

Mr. L. W. Cole has been appointed secretary of Babcock and Wilcox in succession to **Mr. H. B. Clark**, who will take up special duties with the company.

Mr. Leslie H. Collins has been appointed general manager of General Metallurgical and Chemical, Ltd., and **Mr. James F. Widman** has been appointed a director of the company and manager of its chemicals division.

Mr. Clifford Gordon Crain has been appointed to the Board of Mount Morgan in place of **Mr. G. A. Crawford**, resigned.

Mr. S. G. Deaves has been appointed sales manager (domestic market) for the British Tyre & Rubber Co.'s Industrial Rubber Products including conveyor and transmission belting, hose, mouldings, etc.

Capt. N. W. Diggle has left the board of Dominion Reefs (Klerksdorp).

The death is announced of **Col. D. E. Evans**, one of the directors of Mount Isa Mines.

Mr. G. Finlayson is to take up an appointment with Tikwah Mining Corporation, British Guiana.

Mr. W. H. Geikie has resigned from the boards of Oroville Dredging and Pato Mines (Columbia).

Mr. Alan S. Gill has been appointed director and general manager of Western Metallurgical Industries.

Sir Godfrey Fell has retired and **Mr. H. R. Mackilligin** has resigned from the board of Thistle-Ena Gold Mines. **Mr. G. H. Dunbar** has been elected a director.

Major W. M. Henderson-Scott and **Mr. E. L. Westropp** have resigned from the board of Central Wassau Gold Mines. **Major Scott** resigned on the grounds of ill health, and **Mr. Westropp** because of a recent important appointment calling for his full attention.

Mr. A. R. Hurd and **Mr. L. M. Gibson Harris** have been elected to the board of The Scottish Australian Company to fill the vacancies caused by the retirement of **Col. Ian Forbes** and of **Mr. J. Gibson Harris**.

Mr. Alonzo Limb has been appointed sole managing director of C. C. Wakefield & Co. **Mr. Wilfram F. List** and **Mr. Leonard M. Broadway** have been appointed assistant managing directors of the company.

Mr. A. L. McMyn and **Mr. R. B. Fairclough** have been elected directors of Anglo-Thai Corporation.

Mr. William S. Morrison has retired from the board of United Steel Co.'s.

Mr. R. L. C. Neves has been appointed director of Tweefontein Colliery.

Mr. K. M. Niall, acting under medical advice, has relinquished the chairmanship of Mount Lyell Mining and Railway Co. but remains a director. **Mr. W. E. Bassett** has been elected chairman.

Mr. Ian D. Orr has been appointed chairman and managing director of Messrs. James Miller, Son & Co., who were closely concerned with barytes mining in Great Britain.

Mr. W. S. Reid has been elected chairman of the principal board of directors of the Commercial Bank of Australia, Melbourne, in succession to the late **Mr. W. J. Byrne**.

Messrs. L. Tucker (chairman), **A. B. MacLaren**, **J. Thomson**, **H. St. L. Grenfell** and **John Payne, Jr.**, to replace the first board of the newly formed Mwinilunga Co. details of which are given elsewhere in this issue.

Mond Nickel Fellowships.—The Mond Nickel Fellowships Committee have announced that **Mr. R. J. Preston**, **Mr. P. E. White** and **Mr. P. J. Hill** have been awarded Mond Nickel Fellowships for 1951. **Mr. R. J. Preston**, British Non-Ferrous Metals Research Association, will study in Great Britain, the U.S.A. and Canada, specialized methods of production and fabrication of metals with particular reference to powder metallurgical techniques. **Mr. P. E. White** (Messrs. J. B. & S. Lees, Ltd.) will study the metallurgy and detailed production

technique of high quality strip steels in the United Kingdom, Scandinavia, U.S.A. and Canada, with particular reference to hardened and tempered steel strip, stainless steels and silicon steels. **Mr. P. J. Hill** (Public Works Dept. of Western Australia) will study in the United Kingdom the application of research to the development of corrosion resistant metals for use in the mechanical engineering industry.

New Year Honours.—Among the New Year Honours of particular interest to readers of *The Mining Journal* was the appointment of **Sir Ulick Alexander**, chairman of Rhodesia-Katanga and of Tanganyika Holdings and director of Kenton Gold Areas and other companies, to the Privy Council, and the conferment of a Knighthood on **Mr. Hans Eric Miller**, chairman of the International Rubber Development Committee and of Harrisons and Crosfield.

C.B.E. awards included **Mr. G. L. Bailey**, director of research, British Non-Ferrous Metals Research Association; **Mr. E. H. Browne**, chief mining engineer and director-general of production of the National Coal Board; **Mr. A. Winstanley**, deputy chief inspector of mines for special development duties, Ministry of Fuel; **Mr. A. H. Searl**, lately director of Non-Ferrous Metals, Ministry of Materials; **Col. C. Errington Wales**, marketing director, North Eastern Division of the National Coal Board; O.B.E. awards included **Mr. B. S. Passmore**, lately Colliery Manager, Enugu Coalfield, Nigeria, and **Mr. W. Baragwanath**, geological consultant to the Department of Mines, Victoria.

Obituary

SIR CYRIL S. FOX

We learn with much regret of the death last week in Calcutta of **Sir Cyril Sankey Fox**, after a brief illness. Most of **Sir Cyril's** active life was spent in India in the service of the Geological Survey of India, and later in the near East notably in Abyssinia, Arabia, Afghanistan and Egypt.

After studying at Birmingham University, he became Assistant Superintendent in the Geological Survey of India in 1911, rising to Superintendent in 1930 and becoming Director of the Survey in 1939, retiring with a knighthood at the end of 1943. Since then he was widely engaged in consulting work.

Sir Cyril will be best remembered by his monumental work on the Indian coalfields, published in the Memoirs of the Geological Survey of India in 1931 and 1934, representing some eight years' intensive study of the Indian coalfields. Besides this, he was the author of many special contributions on the subject of coal. He was an authority on aluminium, and in 1932 published a text book on "Bauxite and Aluminous Laterite." This was followed by a comprehensive treatise on "Engineering Geology" published in 1935. In 1937 he represented the Indian Geological Survey at the International Geological Congress in Moscow, and some of the results of his observations there were published in *The Mining Journal* of July 17 and Aug. 7, 1937. He also specialized on problems of water supply and during last summer was advising the Egyptian Government on big water and irrigation projects in Western Egypt. He was looking forward to further work in this connection after his return from his professional visit to India, which he undertook only a few weeks ago. Before the war he paid a visit to Abyssinia at the instance of the British Government to advise under an arrangement with Haile Selassie, previous to the Italian occupation of the country. More recently he studied oil geology along the eastern coast of Arabia, especially in the Sultanate of Qatar. In 1923 he was associated with **Sir Harry Lindsay** in the establishment of an economic advisory agency of the Indian government in the City with a view to advising on and assisting the employment of British capital in that dominion, that subsequently closed for reasons of economy in 1934. Only last October he described in *The Mining Journal* the employment of helicopters in the survey of areas in Western Egypt.

He served in the first world war as signal officer in the Royal Engineers, and was mentioned in despatches in 1915. He was chairman of the Fuel Research and Heavy Chemical Committees of the Scientific and Industrial Research Organization in India between 1942 and 1944. He was a D.Sc., and a member of the Institute of Mining Engineers and a Fellow of the Geological Society.

CAPITAL REQUIRED. To explore four new Mining Concessions bearing Pyrites, Gold, Silver and Manganese deposits. For further particulars please apply to Box 514, c/o. The Mining Journal, 15, George Street, London, E.C.4.

November Mine Returns

Gold

WEST AFRICA

Amalgamated Banket.—53,043 tons yielded 8,763 oz.; profit £26,021.
Ariston.—27,000 tons yielded £113,286; profit £41,606.
Ashanti.—19,000 tons yielded 15,019 oz.; profit £84,263.
Bibiani.—30,000 tons yielded 6,025 oz.; profit £17,133.
Bremang.—4 dredges treated 614,500 cu. yd. yielded 2,817 oz.; profit £9,049.
Gold Coast M.R.—8,252 tons yielded 3,095 oz.; profit £11,530.
Konongo.—2,015 tons yielded 2,150 oz.; profit £9,903.
Marlu.—42,640 tons yielded £4,802 oz.; profit £23,346.
Nanwa.—3,750 tons yielded 821 oz.
Taqaah.—20,200 tons yielded 4,617 oz.; loss £7,345.

INDIA

Champion.—13,980 tons yielded 6,010 oz.
Mysore.—16,300 tons yielded 5,858 oz.
Nundydroog.—19,908 tons yielded 4,701 oz.
Ooregum.—10,670 tons yielded 2,750 oz.

AUSTRALIA

Boulder Pers.—(Nov. 7-Dec. 4) 10,860 tons yielded 2,586 oz.
Central Norseman.—(Nov. 7-Dec. 4) 10,878 tons yielded 2,545 oz.
Croesus Prop.—(Nov. 7-Dec. 4) 7,332 tons yielded 1,835 oz.
Golden Horse Shoe.—75,294 tons of tailings yielded 731 oz. gold and 675 oz. silver.
Gold Mines of Kalgoorlie.—(Nov. 7-Dec. 4) 13,423 tons yielded 3,371 oz.
Harrierville (Tronoh).—(Nov. 18-Dec. 15) 233,700 cu. yd. yielded 862 oz., value £A.12,923.
Kalgoorlie Enterprise.—(Nov. 7-Dec. 4) 3,961 tons yielded 1,082 oz.
Kalgoorlie Ore.—(Nov. 7-Dec. 4) 11,016 tons yielded 2,600 oz.
Lake View and Star.—(Nov. 7-Dec. 4) 96,613 tons yielded 11,448 oz.
Morning Star (G.M.A.).—(Nov. 7-Dec. 4) 1,687 tons yielded 709 oz.
New Coolgardie.—(Nov. 7-Dec. 4) 4,277 tons yielded 1,975 oz.
Sons of Gwalia.—(Nov. 7-Dec. 4) 6,010 tons yielded 1,197 oz.
South Kalgoorlie.—(Nov. 7-Dec. 4) 8,141 tons yielded 1,882 oz.

MISCELLANEOUS

Brit. Guiana Cons.—170,538 cu. yd. dredged yielding 1,775 oz. Cam & Motor.—22,500 tons yielded £71,217; profit £31,788.
Clutha.—(Nov. 10-Dec. 7) dredge worked 63 hours yielding 470 oz.
Dominion Reefs (Klerksdorp).—21,000 tons yielded 1,856 oz.; loss £1,868.
Frontino.—9,688 tons yielded 6,539 oz.
Kentan (Geita).—15,000 tons yielded 2,466 oz.
Motapa.—23,650 tons yielded 2,400 oz.; profit £2,997.
New Kleinfontein.—102,000 tons yielded 13,707 oz.; profit £35,075.
Rezende.—6,500 tons yielded £14,355; profit £1,401.
Rosterman.—2,153 tons yielded 915 oz. Profit £1,959.
Sherwood Star.—2,165 tons yielded £1,836; profit £497.
Spearwater.—10,400 tons yielded 2,352 oz.
St. John D'el Rey.—33,400 tons yielded £221,107.
Thistle-Etna.—3,400 tons yielded 367 oz.
Transvaal Gold.—25,800 tons yielded 4,939 oz.; loss £838.
Wit Nigel.—10,000 tons yielded £32,107; profit £631.

Tin

MALAYA

Ampat.—127½ tons tin conc.
Batu Selangor.—28½ tons tin conc.
Berjantai.—45½ tons tin conc.
Ipo.—31½ tons.
Jelapang.—25½ tons tin conc.
Kampong Lanjut.—32 tons tin conc.
Kamunting.—177 tons tin conc.
Kinta Kellas.—33½ tons tin ore.
Kinta Tin.—33 tons tin ore.
Klang River.—32½ tons tin conc.
Kramat Tin.—24½ tons tin conc.
Kuala Kampar.—143½ tons tin conc.
Kuchai.—131½ tons tin conc.
Larut.—81½ tons tin conc.

Lower Perak.—93½ tons tin conc.
Malaysiam.—4½ tons.
Pahang.—240 tons tin conc.
Rahman.—37½ tons tin ore.
Rantau.—77½ tons tin conc.
Rawang Conc.—67 tons tin conc.
Rawang Tin.—101½ tons tin conc.
Renong.—71½ tons tin ore.
Southern Kinta.—34½ tons tin conc.
Sungei Kinta.—28½ tons.
Taipung.—31 tons tin conc.
Tambah.—6½ tons tin conc.
Tanjong.—95 tons tin ore.
Tongkah Harbour.—48½ tons tin conc.

NIGERIA

Amalgamated Tin.—385 tons tin conc. and 25 tons columbite.
Ex-Lands.—45 tons.
Filani.—4½ tons tin ore.
Gold and Base Metals.—42 tons tin conc.
Jantar Nigeria.—20 tons tin and 16 tons columbite.
Jos Tin.—13½ tons tin conc.
Kaduna Prop.—5½ tons tin ore.
Kaduna Synd.—18½ tons tin ore.
Keffi.—17½ tons tin conc.
Naraguta Extended.—10½ tons tin ore.
Naraguta Karama.—14½ tons tin ore.
Naraguta Tin.—29 tons tin ore and 4½ tons columbite.
Ribon Valley.—7 tons tin conc.
Rukuba.—2½ tons tin ore.
South Bukuru.—3½ tons tin ore.
Tin Fields of Nigeria.—1½ tons tin ore.
United Tin Areas.—8 tons tin conc.

MISCELLANEOUS

Bangrin.—99½ tons.
Geevor.—60 tons black tin (65 per cent Sn.).
Kamra.—12 tons.
Siamese Tin.—122½ tons.
South Crofty.—27 tons black tin and 1 tin wolfram.
Zaaplaats Tin.—Profit (before tax) £11,948.

Coal & Miscellaneous Base Metals

Amal. Collieries.—625,738 tons coal.
Apex Mines.—92,398 tons coal.
Blesbok Colliery.—42,315 tons coal.
Broken Hill South.—(Nov. 3-Dec. 1) 23,740 tons ore (assaying 73.3 per cent lead, 51.1 per cent zinc and 41.2 per cent silver) yielded 3,770 tons lead conc. and 4,601 tons zinc conc.
Coronation.—87,917 tons coal.
Dundee.—38,794 tons coal.
Lake George (Oct. 21-Nov. 18).—14,210 tons yielded 1,104 tons lead conc., 2,043 tons zinc conc. and 256 tons copper conc.
Mount Isa.—50,150 tons yielded 2,950 tons lead-silver bullion assaying 91.9 oz. silver per ton and 3,964 tons zinc conc.
Natal Navigation Collieries.—116,144 tons coal.
New Broken Hill.—(Oct. 13-Nov. 10) 20,392 tons ore (assaying 8.3 per cent lead, 11.8 per cent zinc and 1.9 oz. silver) yielded 2,096 tons lead conc. and 4,324 tons zinc conc.
Rhodesia Broken Hill.—1,875 tons zinc, 1,150 tons lead and 1,809 tons fused vanadium.
Rooiberg Minerals.—Profit £34,296.
Springbok Colliery.—62,203 tons coal.
South African Coal Estates.—133,188 tons coal.
T.C.L. & Exploration (Van Dyks Drift Colliery).—40,331 tons coal.
U.F.S.C. & G. (Raleigh Colliery).—30,430 tons coal.
Vryheid Coronation.—47,670 tons coal and 12,874 tons coke.
Wankie Colliery.—189,080 tons coal sales and 9,523 tons coke sales.
Witbank Colliery.—121,879 tons coal.

Oil

*Tonnage output has been converted at seven barrels to the ton.

Anglo-Ecuadorian.—155,827 barrels.
Apex (Trinidad).—268,285 barrels.
British Controlled Oilfields.—27,293 barrels.
Kern.—177,031 barrels.
Kuwait.—20,117,265 barrels.
Labitos.—237,328 barrels.
Trinidad Central.—40,757 barrels.
Trinidad Leaseholds.—503,725 barrels.
Trinidad Petroleum Development.—249,430 barrels.
Ultramar.—722,258 barrels.

WANKIE COLLIERY CO.

INCREASED PRODUCTION BUT LOWER PROFIT

SERIOUS RISE IN COSTS

MR. ROBERT FOOT'S SPEECH

The Twenty-Eighth Annual General Meeting of the Wankie Colliery Co., Ltd., was held on Dec. 31, in London. Mr. Robert Foot, O.B.E., M.C., the chairman, presiding.

The chairman, in the course of his speech, said:

You will have seen from the Accounts that the results of our operations during the year resulted in a profit before taxation of £283,396 which in spite of an increased coal production shows a drop of £54,473 compared with last year.

ALLOCATIONS FROM PROFIT

Taxation absorbs an amount of £100,000 leaving a balance of £183,396 after taxation as compared with £181,869 in the previous year. The very substantial additions to plant, machinery and buildings and the initial tax allowances arising from this have had the effect of eliminating any liability this year for United Kingdom income tax. The Board has, however, considered it necessary to transfer to the taxation equalization reserve the sum of £95,000 which represents the approximate taxation benefit arising from the excess of the initial and annual allowances on plant and machinery over the depreciation charged in the Accounts.

Of the balance of £88,396 the Board recommend a final Dividend of 5 per cent which will absorb £86,871 thus leaving £1,525 to be added to the carry forward which now stands at £41,965 as compared with £40,440 in the previous year.

Although the year's saleable coal output of 2,342,133 tons was the highest ever yet produced at Wankie and represented an increase of 199,778 tons or 9.32 per cent over the previous year, at the same time we fell substantially below our estimate. It is this shortfall which has been the greatest disappointment to us and to the customers who depend upon us and which has also had an over-riding effect upon the final profitability of the year's working.

FACTORS AFFECTING RESULTS

The relatively disappointing results have been due to three main causes.

First, the serious difficulty of maintaining an adequate supply of good African labour. The shortage has been most serious in the type of labour required for the actual production of coal—viz: the workers at the coalface or lashing boys as they are called: it is in this category that the deficiency has been the most damaging in its direct effect upon production.

There is no doubt that the demand for good African labour in Central and Southern Africa has become highly competitive and I have also no doubt that so far as Wankie is concerned we have got to do two things—both are expensive and both must be done at the same time:

- (a) To improve all the conditions surrounding the employment of Africans, and
- (b) To proceed, as fast as the power of absorption and common sense allow, with the most thorough mechanization of our underground operations as will be consistent with the physical conditions.

URGENCY OF PRODUCTION PROBLEM

Secondly, because of the urgency of the production problem and of the difficulty in maintaining an adequate supply of really good underground labour we have proceeded to mechanize the production faster than would have been wise if conditions had been more normal.

The speed at which complete underground mechanization has been introduced has brought with it the following practical difficulties:

- (a) The time available for giving adequate training both to the European staff and to the African operators of the mechanized units has been too short.
- (b) We have been compelled to put the units into production before we had been able to recruit sufficient skilled European personnel.

The joint effect of the insufficiently trained African crews and the shortage of trained European supervisors and maintenance men has been to restrict the output per mechanized unit below its optimum capacity and has for the time being, at any rate, thrown the cost per ton of the mechanized output very substantially above the cost of the handgot production.

MECHANIZATION POLICY JUSTIFIED

I am satisfied, however, that in view of the difficulty and the urgency of the whole position the policy of rapid mechanization has been justified. It is interesting to note that in the

financial year 1949/50 we produced in this way 84,000 tons or 3.92 per cent of the total production, and in the present year we produced 422,621 tons or 18.04 per cent of the total production. During the same years the handgot production decreased from 2,023,351 tons in 1949/50 to 1,877,363 tons in the present year.

The third cause for the disappointing production results has been a recent serious, but we hope temporary, deterioration in the underground geological conditions and there is no doubt that during the last twelve months the mining conditions at both collieries have had a serious effect upon both the volume and cost of production.

The costs of production have been rising progressively throughout the year. Many different factors have contributed to this rise, the present high costs of mechanized mining, the increased cost of salaries and wages both European and African and of all stores and materials being the principal.

There are no signs at the present time of any reducing trends in the level of any of the major items of cost—indeed the signs would appear to point in the opposite direction.

MEASURES TO INCREASE REVENUE

In view of the whole of the circumstances surrounding the operations of the Company at the present time, the Board has come to the conclusion that the only sensible business course to take is to increase our revenue to meet the position which has now been disclosed.

In the Director's Report reference was made to the price arrangement under which the Company is operating for sales of coal other than those made under certain fixed price contracts. Under this arrangement, while the price of coal can be reduced at any time, it can only be increased on or after the 1st January in the year following the completion of the Company's financial year on the previous 31st August.

The Auditors' certificate based upon the results of the year now under review support an increase of 2s. 3d. a ton and under the circumstances the Directors have, therefore, decided to increase the price by that amount as from 1st February, 1952.

The Directors much regret the necessity to reduce the dividend for the year from 7½ per cent to 5 per cent. It will, however, be obvious from the Report and Accounts that a dividend higher than 5 per cent could not have been justified as a result of the year's working. I think that what I have already said sufficiently explains the circumstances and I would only like to add first that it will be generally accepted by all those with experience in the control and administration of mining companies, as it is by your Board, that a dividend of five per cent is totally inadequate as a return to the Shareholders having regard to the risks and hazards which every mining enterprise must involve; and, secondly, that during the last two years a very great deal has been achieved at Wankie and that in spite of all the present difficulties the way ahead is much clearer and the future can be faced with much greater confidence than was the case even a year ago.

CAPITAL EXPENDITURE

Turning now to our programme of capital expenditure, during the last two years the Company has actually spent nearly £2,000,000 on capital projects and at the present time we have outstanding commitments amounting to approximately £1,000,000.

The magnitude of these figures, in relation both to what has been spent at Wankie for capital purposes over the last twenty or thirty years, and in relation also to the sense of urgency under which all the important projects included in this programme have been carried out, are sufficient evidence both of what has been accomplished and what also is now nearing completion. Broadly speaking, this expenditure and the current commitments to which I have referred will provide all the technical equipment which is necessary to support the increasing output of coal up to 1954, but at the same time, during the next two or three years further capital will have to be spent at Wankie upon improvements which are desirable in the interests of the well-being of the community, both European and African.

CHAIRMAN'S VISIT

I should refer to the visit which I paid to Wankie last August. I am glad to say that on this occasion my wife came with me, at the special request of the Board, for the purpose of studying at first hand the conditions at Wankie, as they affect particularly the wives and mothers and children, and of making suggestions and recommendations.

So far as I am personally concerned, my second visit to

Wankie gave me a further opportunity of studying on the spot the various problems which I have already sufficiently indicated, and of consulting directly with the General Manager and the principal officials as to the proper steps to be taken for their solution.

I am quite satisfied that while we must continue to strengthen the staff at various levels of responsibility, we owe a great debt of gratitude to those who are carrying the present burden from the General Manager downwards.

Some measure of the accomplishment which has so far been achieved is the fact that the saleable output of coal has been raised from 1,579,568 tons in 1947 to 2,342,133 tons in the year under review, an increase of 48.28 per cent.

I have been asked by the Board to refer in my speech especially to the contribution which has been made by Powell Duffryn, Ltd., as Managers of the Company. The Board are convinced that the appointment has added immensely to the strength of the Company and that the contribution made by Powell Duffryn to the planning and progress of the Company in every direction has been of the greatest possible value.

PROPOSED TRANSFER OF CONTROL

I must close my general review and come to a special matter, of great importance to the Company.

At my meeting with Sir Godfrey Huggins, the Prime Minister of Southern Rhodesia, on my arrival in Salisbury at the beginning of last August, Sir Godfrey told me that his Government had come to the conclusion that, owing to the great importance of the Wankie Coalfield to Southern Rhodesia and to Central Africa in general, coupled with the many difficulties that have to be overcome from time to time, it was highly desirable that the control and management of the Company should be transferred to Southern Rhodesia.

On my return, the Board gave full consideration to the Prime Minister's request and resolved unanimously that (subject to the approval of the British Government) proposals should be placed before the Shareholders to carry out the Prime Minister's request. The Board passed this resolution after having requested and received an assurance from Powell Duffryn, Limited, that if the control and management of the Company was transferred to Southern Rhodesia, they would not only ensure that all necessary changes in their organization were made to make certain that the efficiency of the Management Contract would be maintained, but would also, with my agreement and subject to the retention of my association with the Powell Duffryn Group, make all necessary arrangements to enable me to act as Chairman of the Company, with my own residence and domicile in Southern Rhodesia.

I have been informed that following the Board's minute, direct representations have been made on the subject by the Southern Rhodesian Government to the British Government. The Company has also submitted an application to the Treasury.

FORMATION OF SUBSIDIARY COMPANY

If the transfer of control and management is approved by the British Government, the Board of Powell Duffryn will be willing to form a subsidiary company in Southern Rhodesia to which would be transferred the management contract, together with the necessary senior personnel to enable this important responsibility to be efficiently and thoroughly carried in Salisbury.

If the change of the control and management of the Company is approved by the British Government an Extraordinary General Meeting of the Shareholders will be summoned, at which the necessary alterations in the Memorandum and Articles of Association will be brought forward for consideration by the Shareholders, and at the same time other matters connected with the proposed transfer will be explained.

Mr. Leo d'Erlanger said that he had listened with interest and approval to the observations the Chairman had made with regard to the transfer of the company to Rhodesia and he was particularly struck by the readiness with which the Chairman seemed to have accepted the suggestion that he should go out and live there.

The Chairman, acknowledging with appreciation the remarks of Mr. d'Erlanger, said that if the move was made he and his family had promised to go out because they believed it to be right to do so. It was a big move for the company, for his family, for himself and for those senior personnel from the Powell Duffryn Group who would be going there to support him; but he personally felt it was right. When one was convinced about a thing being right it had to be done one way or another. Therefore, if the move was made they would do their best to ensure that Wankie served those great territories in the future even better than in the past and also became, he hoped, more lastingly profitable to the owners of the property—the shareholders.

The report was adopted.

SIR LINDSAY PARKINSON & CO.

(Civil Engineering, Building & Public Works Contractors)

The Fourteenth Annual General Meeting of Sir Lindsay Parkinson & Co. Ltd., was held on December 28, in London, Mr. A. E. Parkinson, the chairman, presiding.

The following are extracts from his statement circulated with the report and accounts:—

Last year I drew the attention of the members to the difficulties which were then being experienced following the devaluation of the £ sterling and the consequent general increases in costs. Equally serious has been the aftermath of the outbreak of hostilities in Korea which has been an even more steep rise in all costs, particularly purchases from America. The results of the year 1950 which are now before you make manifest the serious problem which the Board had before it when we last met.

The 1949 accounts showed a net profit of approximately £127,000 before taxation. The accounts now before you show a loss of some £32,000 before adjustment in respect of taxation, a deterioration of nearly £160,000. It must of course also be borne in mind that the weather in 1950 was exceptionally wet with very serious consequences upon our opencast coal operations in which you know we are heavily committed. Against this unfavourable aspect of the accounts now before you, you must now be pleased to learn that following a provisional settlement of the protracted negotiations upon the company's taxation liabilities, it is now possible to transfer to the credit of profit and loss account a sum of over £411,000, and to the credit of capital reserve a sum of £50,000. The above two factors are the vital aspects of these accounts.

I now deal in some detail with the problems we have encountered on opencast coal. Much of this work is carried out under long-term contracts with the Ministry of Fuel and Power at a fixed price per ton of coal delivered. The price has to cover all work up to and including final restoration of the land to its original condition, often agricultural. It will be appreciated that on such contracts the contractor must carry the risk of price increases during the period of the contract. The burden of these risks, however, became so heavy that the Ministry after long negotiation recently agreed to include price variation clauses for certain items of cost, in all future contracts, and to make an ex gratia concession in respect of coal delivered since January 1, 1951, on contracts entered into before that date. You will readily appreciate that this concession, while very welcome, does not help in regard to the very heavy increases in costs which have been suffered up to December 31, 1950.

Despite this concession we still have to bear the risk of increased costs on certain substantial items and this position will not be entirely eliminated until all the old contracts are fully completed.

Referring to the provisional taxation settlement, this covers the entire period from incorporation of the company in 1937 to December 31, 1949. Negotiations have been protracted, as the basis of charge of excess profits tax has involved a reapportionment of all contract profits over the life of the company and that of its predecessor from January 1, 1935, up to December 31, 1949. The effect has been a substantial adjustment to standard profits with consequent reaction on the liabilities. In addition, there have been very material questions of principle requiring settlement.

The consolidated profit and loss account shows that the profit of the group applicable to the members of the parent company after taxation adjustment amounts to some £384,000, as compared with the parent company's profit of some £379,000, indicating that the company's subsidiaries show a profit, despite the fact that certain of them were still in the early stages of development and also despite the fact that the difficulties of rising costs have been world-wide. The consolidated balance-sheet shows that the reserves of the group amount to some £565,000. If one were to deduct the intangible assets from this there is still left an amount of £539,000, some £13,000 more than the amount of reserves shown in the parent company's balance-sheet.

The current liabilities of the group amount to some £1,084,000, against which current assets are shown at £1,570,000, giving a surplus of some £486,000, against a surplus last year of some £54,000.

Your directors recommend that the total distribution for 1950 should be maintained at the same level as for 1949—namely, a total of 8 per cent—on the Cumulative and Participating Preferred Ordinary Stock and 10½ per cent on the Ordinary Stock. The members will accordingly be asked to approve payment of a participating dividend of 3 per cent on the Cumulative and Participating Preferred Ordinary Stock and a final dividend of 2½ per cent and participating dividend of 5½ per cent on the Ordinary Stock.

In looking to the future I can only repeat my remarks of last year to the effect that a general expansion of civil engineering works cannot be anticipated until more normal conditions prevail. The company is tendering for large contracts arising from the rearmament programme and I am hopeful that we shall be entrusted with one or two substantial works. Our Indian subsidiary is also at present negotiating work upon a large dam project.

The report and accounts were unanimously adopted.

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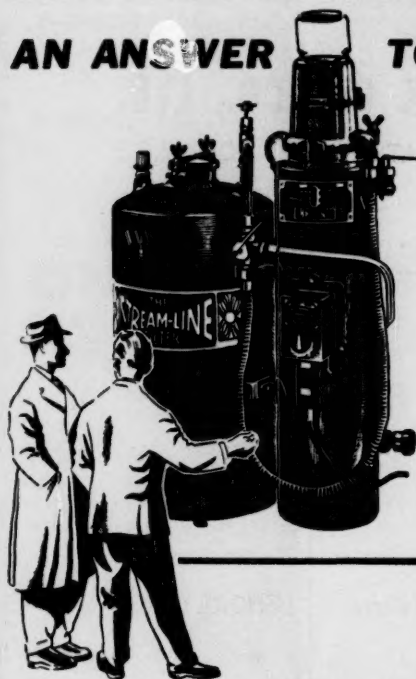
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